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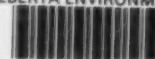
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HAZARDOUS WASTE REGULATION SEMINAR

Alberta Department of the Environment
Edmonton

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ALBERTA ENVIRONMENT



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Alberta

HAZARDOUS WASTE REGULATION SEMINAR

Edmonton	Jan 26, 1988 & Feb 15, 1988
Calgary	Jan 27, 1988 & March 16, 1988
Grande Prairie	February 23, 1988
St. Paul	February 29, 1988
Lethbridge	March 15, 1988
Red Deer	March 17, 1988

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1988

8.30 a.m.

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Adjourn at 5.00 p.m.

INTRODUCTION

**Vance A. McNichol
Deputy Minister
Alberta Environment**



THANK YOU AND GOOD MORNING LADIES AND GENTLEMEN ... ON BEHALF OF THE MINISTER OF THE ENVIRONMENT, THE HONOURABLE KEN KOWALSKI, IT IS MY PLEASURE TO WELCOME YOU TO OUR FIRST PUBLIC INFORMATION SEMINAR ON THE MANAGEMENT OF HAZARDOUS WASTES IN ALBERTA.

AS MANY OF YOU KNOW, THIS SEMINAR IS PART OF A PROVINCE-WIDE, EDUCATION AND AWARENESS PROGRAM ON HAZARDOUS WASTES. THE PROGRAM INCLUDES A VARIETY OF INITIATIVES, IN ADDITION TO THIS SERIES OF SEMINARS, WHICH YOU WILL BE HEARING MORE ABOUT TODAY. IT IS SPONSORED BY THE THREE AGENCIES OF THE PROVINCIAL GOVERNMENT WHICH SHARE RESPONSIBILITY FOR MANAGING HAZARDOUS WASTES IN ALBERTA:

- ALBERTA ENVIRONMENT;
- ALBERTA PUBLIC SAFETY SERVICES; AND
- THE ALBERTA SPECIAL WASTES MANAGEMENT CORPORATION.

IN ADDITION, THROUGH PUBLIC HEALTH UNITS, THE DEPARTMENT OF COMMUNITY AND OCCUPATIONAL HEALTH HAS A VERY IMPORTANT ROLE TO PLAY THROUGH APPROVAL AND SUPERVISION OF MUNICIPAL LANDFILLS. SENIOR LEVEL DISCUSSIONS BETWEEN ENVIRONMENT AND COMMUNITY AND OCCUPATIONAL HEALTH ARE CURRENTLY BEING HELD TO BETTER DEFINE THE RESPONSIBILITIES OF BOTH DEPARTMENTS WITH RESPECT TO HAZARDOUS WASTE MANAGEMENT.

TODAY YOU WILL BE RECEIVING INFORMATION ON HOW YOU CAN MEET THE REQUIREMENTS AND GOALS OF THE ALBERTA SYSTEM WITH RESPECT TO YOUR OWN BUSINESS, INDUSTRY, OR HOUSEHOLD.

THIS IS A CRITICAL TIME FOR WASTE MANAGEMENT IN ALBERTA. THE LAST YEAR HAS BEEN A TIME OF CHANGE AND IMPROVEMENT:

* FIRST, IN 1987 WE ESTABLISHED THREE GOALS FOR HAZARDOUS WASTE MANAGEMENT IN THIS PROVINCE. THEY ARE:

- TO REDUCE THE AMOUNT OF HAZARDOUS WASTES GENERATED;
- TO ENSURE THAT HAZARDOUS WASTES ARE PROPERLY HANDLED FROM CRADLE-TO-GRAVE; AND
- TO MAKE IT EASIER TO RECYCLE, RATHER THAN DISPOSE OF HAZARDOUS WASTES.

WE ARE HOPING THAT YOU, TOO, WILL ACCEPT THESE GOALS AS A FRAMEWORK FOR YOUR OWN APPROACH TO MANAGING HAZARDOUS WASTES ... WHETHER YOU REPRESENT A LARGE INDUSTRY, A SMALL BUSINESS, OR SIMPLY YOURSELF AND YOUR HOUSEHOLD.

* SECOND, ON SEPTEMBER 11, 1987, THE PREMIER, THE HONOURABLE DON GETTY, OPENED THE ALBERTA SPECIAL WASTE TREATMENT CENTRE NEAR SWAN HILLS. THIS FULLY INTEGRATED FACILITY IS CAPABLE OF

TREATING AND DISPOSING OF ALL NON-NUCLEAR HAZARDOUS WASTES AT ONE LOCATION. ITS INITIAL DESIGN CAPACITY IS 15,000 TONNES PER YEAR AND IT UTILIZES HIGH TEMPERATURE INCINERATION FOR ORGANIC WASTES AND PHYSICAL/CHEMICAL TREATMENT AND STABILIZATION FOR INORGANIC WASTES. THE SPECIAL WASTES TREATMENT CENTRE IS UNPARALLELED IN NORTH AMERICA AND IS THE FOCUS OF ALBERTA'S APPROACH TO MANAGING HAZARDOUS WASTES.

- * ALSO THIS YEAR, SEVERAL AMENDMENTS TO ALBERTA'S HAZARDOUS WASTE REGULATION WERE ADOPTED BY ORDER IN COUNCIL OF THE PROVINCIAL GOVERNMENT.

THE AMENDMENTS TO THE HAZARDOUS WASTE REGULATION RESTRICT THE DISPOSAL AND STORAGE OF HAZARDOUS WASTES IN THE FOLLOWING WAYS:

- BY PROHIBITING LANDFILLING OF SPECIFIC HAZARDOUS WASTES IN EXCESS OF DEFINED, MINIMUM CONCENTRATIONS AT ALL LANDFILL SITES IN ALBERTA; AND
- BY SETTING LIMITS ON THE LENGTH OF TIME AND THE MAXIMUM AMOUNT OF HAZARDOUS WASTE THAT CAN BE STORED ... SO THAT STORAGE DOES NOT REPLACE PROPER TREATMENT AND DISPOSAL.

THESE RESTRICTIONS WILL HELP TO ENSURE THAT WE DO NOT TRANSFER THE RISKS INVOLVED FROM ONE PART OF THE ENVIRONMENT TO ANOTHER.

IT WILL BE PARTICULARLY IMPORTANT FOR THOSE OF YOU THAT ARE REGULATED BY THE SYSTEM TO BECOME FAMILIAR WITH THESE NEW REQUIREMENTS ... THAT IS ONE OF THE MAJOR REASONS FOR THIS SEMINAR.

- * IN ADDITION, THERE ARE SEVERAL OTHER INITIATIVES UNDERWAY WHICH ARE IMPORTANT COMPONENTS IN OUR SYSTEM FOR HAZARDOUS WASTES MANAGEMENT. THESE INCLUDE, ALBERTA ENVIRONMENT'S HELP, OR HELP END LANDFILL POLLUTION, PROGRAM; THE DEVELOPMENT OF A TRANSPORTATION NETWORK FOR SAFE, EFFICIENT AND CONTROLLED TRANSPORT OF WASTES TO SWAN HILLS; AND THE DEVELOPMENT OF A SYSTEM OF WASTE TRANSFER STATIONS FOR COLLECTION AND SORTING OF HAZARDOUS WASTES.

I THINK WE'LL BE ABLE TO HELP YOU WITH ALL OF YOUR QUESTIONS ON HAZARDOUS WASTES MANAGEMENT TODAY ... BUT BEFORE I ASK DR. LAMB TO TAKE THE FLOOR AND PROCEED WITH THE SEMINAR, I'D LIKE TO ASK YOU TO HELP US WITH SOMETHING.

ON JANUARY 12, 1988, OUR ENVIRONMENT MINISTER, THE HONOURABLE KEN KOWALSKI, RECEIVED A REPORT PREPARED BY THE REVIEW PANEL ON ENVIRONMENTAL LAW ENFORCEMENT IN ALBERTA.

THE REPORT OUTLINES RECOMMENDATIONS FOR CHANGES TO ALBERTA'S SYSTEM FOR ESTABLISHING STANDARDS FOR ENVIRONMENTAL PROTECTION, AND FOR

ENSURING THAT WE ACHIEVE COMPLIANCE WITH THESE STANDARDS IN THE MOST EFFECTIVE MANNER POSSIBLE.

CERTAIN ADMINISTRATIVE RECOMMENDATIONS, INCLUDING A REORGANIZATION OF ALBERTA ENVIRONMENT, ARE ALREADY BEING IMPLEMENTED. HOWEVER, MR. KOWALSKI IS CONCERNED TO ENSURE THAT EVERYONE THAT WOULD BE AFFECTED BY THE IMPLEMENTATION OF THESE RECOMMENDATIONS HAS AN OPPORTUNITY TO REVIEW AND COMMENT ON THEM.

THOSE OF YOU THAT ARE LICENSED THROUGH ALBERTA ENVIRONMENT WILL BE INTERESTED TO REVIEW THE RECOMMENDATIONS REGARDING THE LICENSING SYSTEM, AND THE SUGGESTIONS WITH RESPECT TO ALBERTA ENVIRONMENT'S RESPONSE TO VIOLATIONS.

COPIES OF THE REPORT HAVE ALREADY BEEN DISTRIBUTED WIDELY THROUGHOUT THE PROVINCE AND MANY OF YOU MAY ALREADY HAVE HAD AN OPPORTUNITY TO REVIEW IT. I ENCOURAGE THOSE OF YOU THAT HAVEN'T, TO PICK UP COPIES AT THE REGISTRATION DESK.

THANK YOU FOR COMING TODAY. IT IS INDEED A PLEASURE TO SEE SUCH A LARGE GROUP PRESENT HERE ... IN FACT THE TURNOUT HAS BEEN SOMETHING OF A SURPRISE TO US ... WE'VE HAD TO PRINT EXTRA COPIES OF EVERYTHING AT THE LAST MINUTE TO ACCOMMODATE ALL OF YOU.

BUT, WE'RE HAPPY TO DO WHATEVER WE CAN TO HELP ALBERTANS BECOME MORE AWARE OF, AND INFORMED ABOUT, HAZARDOUS WASTES ... AND WE'RE PLEASED TO SEE SO MANY ALBERTANS CONCERNED TO HELP PROTECT ALBERTA'S ENVIRONMENT.

THANKS.

ALBERTA ENVIRONMENT

Legislation

Application and Enforcement

Alberta Environment



REVIEW OF ALBERTA ENVIRONMENT'S REGULATORY REQUIREMENTS
FOR HAZARDOUS WASTE MANAGERS*

INTRODUCTION

The objective of this presentation is to provide an overview of the regulatory requirements so that generators, transporters and receivers of hazardous waste know what is expected of them. More comprehensive information can be obtained from Alberta Environment in a User Guide, a Policy, and relevant guidelines. If you have need of further assistance, we in Alberta Environment will be very happy to provide explanations.

The requirements are fairly straightforward and are easier to understand when broken down into the components which apply to your specific operation. Determining what they are is complex because they are presented in several places, and are presented in a language that is unfamiliar to most of us - the language of the lawyer. One thing to remember when you attempt to understand any legislation you are reading is that you need all the information. This includes the Act, any regulations that are made under that Act and any policies that are published related to the same subject. Interpretation of any part of the legislation is to be in context of its presentation. For example, "plant, structure or thing" used in the Clean Water Act does not include everything. The word "thing" takes its meaning from "plant" and "structure", and thus anything that is not similar to what we normally consider a plant or structure would not be included.

I will first discuss the Hazardous Waste Regulation, then touch on other relevant legislation, and then show how simple it all is.

* Presented at the Public Education and Awareness Information Seminars
January 26 (in Edmonton) and January 27, 1988 (in Calgary).

THE NEW HAZARDOUS WASTE REGULATION, AR 505/87

Overview of Content

On December 17, 1987, the Government enacted the Hazardous Waste Regulation which will come into force on April 1, 1988. This Regulation

- (a) identifies wastes which are to be managed as hazardous wastes under the powers of the Hazardous Chemicals Act and Hazardous Wastes Regulation;
- (b) specifies the type of manifest form to be used for tracking waste shipments;
- (c) specifies distribution of the manifest;
- (d) provides requirements that apply to storing hazardous waste;
- (e) provides the Minister with the authority to require a bond from a person who operates a hazardous waste management facility;
- (f) requires immediate reporting of unlawful, or accidental discharge, emission, escape or spill of hazardous wastes;
- (g) specifies under what conditions hazardous wastes may be disposed of into landfills; and
- (h) provides a list of hazardous wastes which may not be landfilled.

Changes from AR 49/85

Those familiar with the 1985 Regulation, Alberta Regulation 49/85, will note that the new one is much shorter. This resulted in part from presenting the criteria that describe hazardous waste properties by making reference to the Federal Transportation of Dangerous Goods Regulation, rather than including the information directly as was done before. For regulatory purposes essentially the same information is in the new Regulation as that which was in the one being replaced. The other change which resulted in a shorter Regulation was deletion of testing methods. These will be provided in the User Guide.

Reducing the length was not the only change as the following substantive measures were added:

- (a) limits on the amount and time hazardous wastes may be stored;
- (b) small quantity exemption;
- (c) exclusion of all recycled materials;
- (d) exemption from manifesting for certain shipments of hazardous wastes;
- (e) requirement for immediate reporting of spills or other unauthorized releases; and
- (f) prohibitions on landfill disposal.

Discussion of Regulation

Section 1 of the Regulation provides definitions for words where the dictionary meaning is not sufficient or appropriate. The meaning fits the unique use of those words within the body of the Regulation.

You should also be aware that there are definitions in the Hazardous Chemicals Act which apply to the Regulation. For example, the words "person responsible" are defined in the Hazardous Chemicals Act as:

- (i) the owner,
- (ii) the person having the charge, management or control of hazardous chemical, and
- (iii) the person having the charge, management or control of the handling, storage, use, disposal, transportation, or display of hazardous chemical.

So wherever the words "person responsible" are used in the Act and the Regulation they have this meaning. This example not only demonstrates that the Act and Regulation must be read as one, to get the complete story, but it also demonstrates the unique meaning given to certain words. Who would expect the words "person responsible" to apply to the owner of a hazardous waste which is spilled while being transported by someone other than the person who consigned the waste for shipment. Not many would, as the normal reaction would be to hold the transporter responsible. However, what happens if the transporter can't be found? Then there would be no one responsible without this definition. Of course, lawyers would argue the case and a judge would ultimately decide who is responsible in a particular instance. In the past, I've heard it said that "once it leaves my place, I'm no longer responsible". This definition was a response to this kind of attitude.

Section 2 is the information that determines which waste is to be managed as hazardous waste under the Hazardous Chemicals Act and Hazardous Waste Regulation. It contains a list of wastes that are excluded by exemption, and makes reference to a list of hazardous chemical compounds and hazardous waste classification criteria that appear in the Federal Transportation of Dangerous Goods Regulation (TDGR). This federal legislation forms the basis for uniform designation of hazardous waste in Canada. It seems that interpretation of the TDGR list (List 11) has created the most misunderstanding amongst waste managers.

List 11 was compiled to serve a dual purpose: to be referenced by transporters of dangerous goods; and to be used by waste managers. To serve these differing needs, the basic information had to be adjusted. For us waste managers, the numeral "37" in Column IV indicates that we would ignore the things so designated. If we were preparing our own list these things would not appear on our list.

List 11 includes certain waste types that are known to be hazardous waste. If you have a waste that meets the description of anyone of the 98 waste types that are listed, you probably have a hazardous waste. List 11 also includes hazardous chemical substances that need to be regulated as hazardous waste if they are present in an amount that imparts properties to a waste which exceed the values for any one of the parameters specified in the criteria. List 11 provides the classification of the pure chemical substances and therefore guides us to the criteria to be compared against. For example, let's consider a waste that contains beryllium fluoride. Beryllium fluoride is included in Class 6.1 and 9.2 and therefore a waste containing this compound is to be classified according to the criteria for each class. Determine the mass concentration of beryllium fluoride in the waste. If the concentration is greater than 0.01%, then at a minimum the waste is a Class 9.2 hazardous waste. The concentration would have to be approximately 20% to render the waste a Class 6.1 hazardous waste, as determined from the toxicity calculation.

Another category of listed hazardous waste is containers larger than 5 litres. Containers that are hazardous waste fall into two categories; those that are not empty, and those that are empty but are not rinsed. Table 2 is a list of chemicals which would make an unrinsed empty container hazardous waste.

An empty container is one that contains less than 2.5 centimetres of residue at the bottom or less than 3% of the original contents, whichever is the lesser amount. The procedure for rinsing requires that three rinses be performed using for each rinse an appropriate, clean solvent in an amount equal to at least 10% of the container volume. A method that produces an equivalent cleanliness may be used if it is first approved by the Director of Standards and Approvals.

The criteria describing hazardous waste are divided into eight classes. Of the eight classes, five specify numerical values, while the other three provide a generic description. Note that Class 1 is missing. This Class is for explosives and we are not regulating these substances.

Class 2 hazardous waste is any gas that is under pressure and is flammable, poisonous or corrosive. Values for vapour pressure, container pressure, boiling point, flammability and toxicity are specified and if exceeded, would result in the waste being a hazardous waste.

Class 3 hazardous waste is any flammable liquid, mixture of liquids and solids, or liquid containing solids in suspensions which has a flash point of less than 61°C. This class is divided into subclasses representing three different ranges of flash points.

Class 4 hazardous waste is any

- (a) solid that under normal conditions of transport are flammable for the reasons that
 - (i) they are readily ignitable and that would burn vigorously or persistently, or
 - (ii) they cause fire or contribute to fire through friction or from heat retained from manufacturing or processing, or
- (b) any substance that is liable to spontaneous combustion under conditions to which it will be exposed to during transport, storage or disposal, or
- (c) any substance that is liable to heat up in contact with air to the point where it begins to burn, or
- (d) any substance that on contact with water emits dangerous quantities of flammable gases or become spontaneously combustible on contact with water or water vapour.

Note that there is no test method currently specified for this class so a waste generator need not classify mixtures containing Class 4 substances.

Class 5 hazardous waste is one that is or contains an oxidizing substance or organic peroxide. It

- (a) causes or contributes to the combustion of other material by yielding oxygen or other oxidizing substances, or
- (b) contains the organic compound with the bivalent "-O-O-" structure.

Note that there is no test method for classifying this waste and therefore a waste generator is not required to classify mixtures containing Class 5 substances.

Class 6 hazardous waste is any waste that is poisonous or infectious.

Maximum toxicity values are specified for oral, dermal and inhalation toxicity in the referenced criteria. Waste generators do not have to conduct toxicity tests to determine whether their waste fits this class. The toxicity may be calculated using the concentration of hazardous substances in a waste and their respective toxicities. The toxicity values are to be taken from one of two standard references: Registry of Toxic Effects of Chemical Substances and Toxicology Data Bank.

No testing shall be required for infectious substances. Infectious substances are those that are listed and include only organisms, or the toxins of such organisms, that are infectious to humans or to animals.

Class 7 hazardous waste is any waste that has an activity greater than 74 kilobecquerel per kilogram.

Waste generators are not to classify radioactive waste as these materials are classified by the Atomic Energy Control Board.

Class 8 hazardous waste is corrosive waste that has a pH of less than 2.0 or greater than 12.5.

Class 9 hazardous waste includes those substances that:

- (a) present sufficient danger to warrant regulation, but which cannot be assigned to any other class, or
- (b) are environmentally hazardous substances which are present in a waste at a concentration of 0.01% by mass or greater (environmentally hazardous substances are listed with the numeral 9.2 beside their name).

The wastes that are exempt because they are being controlled adequately under other legislation or which cannot be practically expected to meet all of the requirements of the Hazardous Chemicals Act are:

- (a) household wastes,
- (b) agricultural wastes,
- (c) mining overburden,
- (d) ashes and flue gas emission control waste generated from the combustion of domestic waste, coal, or other fossil fuels,
- (e) certain oil field wastes resulting from exploration, development or production of crude oil or natural gas,
- (f) irrigation return flows,
- (g) domestic sewage,
- (h) any recycled materials,

- (i) liquid effluents or air emissions,
- (j) agricultural chemicals and their containers, and
- (k) any hazardous waste produced in an amount that is less than 5 kilograms if a solid or 5 litres if a liquid per calendar month, except for hazardous wastes that contain the very hazardous substances listed in Table 2 that appears in the Regulation.

Section 3 of the Regulation makes reference to a section of the Hazardous Chemicals Act which requires anyone that stores, treats or disposes of hazardous waste to obtain an authorization from the Alberta Special Waste Management Corporation. This Section exempts those who store, treat or dispose of hazardous waste on their own property.

Sections 4 through 12 deal with the manifest. They deal with the need to manifest, specify what kind of manifest to use and indicate what is to be done with various copies of the manifest. You will hear more about the manifest later today.

Sections 13 and 14 control storage of hazardous waste. These sections require that:

- (a) adequate containment be provided to prevent escape of hazardous waste into the environment as a result of leakage from the place where the hazardous waste is stored;
- (b) appropriate labelling is provided on containers and tanks that hold hazardous waste;

- (c) the place where hazardous waste is stored
 - (i) shall have controlled access,
 - (ii) is provided with a sign indicating that hazardous waste is stored therein,
 - (iii) is provided with suitable equipment for use in emergency situations, and
 - (iv) is provided with operators trained to respond to emergency situations;
- (d) anyone that stores hazardous waste produced by someone else must have a Clean Water Act licence to operate issued by the Director of Standards and Approvals;
- (e) hazardous waste is not to be stored for longer than 365 days or in an amount that exceeds 10 tonnes; or
- (f) if there is reasonable justification to store hazardous waste beyond the restricted limits, this is possible provided that the storing is authorized in a licence issued by the Director of Standards and Approvals.

Section 15 provides the Minister with the authority to require a bond from anyone who operates a hazardous waste management facility if he considers it necessary to do so.

Section 16 requires immediate reporting of spills or unauthorized releases of hazardous waste. Such an incident shall be reported to the Director of Pollution Control as soon as it is discovered.

Section 17 deals with landfill disposal. It reflects three management principles:

1. Liquid hazardous wastes may be disposed of only in landfills that have been provided with optimum protection for groundwater.
2. Any landfill which accepts hazardous waste must be operating under an approval granted by the Director of Standards and Approvals.
3. Certain hazardous wastes may not be disposed of in any landfill in Alberta.

Since this is such an important requirement, we should take a few minutes to go through the list of wastes that may not be sent to any landfill.

- Hazardous wastes that contain trichlorophenol, tetrachlorophenol and pentachlorophenol in a concentration greater than 1000 milligrams per kilogram.
- Liquid hazardous wastes containing free cyanides in excess of 1000 milligrams per kilogram.
- Hazardous wastes that contain more than 50 parts per million of polychlorinated biphenyls.
- Hazardous waste with a pH less than 2.0.
- Liquid hazardous wastes that contain arsenic, cadmium, chromium (Cr^{+6}), lead, mercury, nickel, selenium and thallium above prescribed concentration limits for each. The concentrations range from 100 to 500 milligrams per kilogram.

There is one additional prohibition on landfilling hazardous waste which should be noted. It is included in the Public Health Act, Waste Management Regulation and prohibits disposal of hazardous waste into a modified sanitary landfill or dry disposal site.

That brings us to the end of the new Hazardous Waste Regulation. Let's now consider other Alberta Environment statutes and what they require of hazardous waste generators, transporters and receivers. The discussion will be limited to those requirements imposed on hazardous waste managers and does not include that which is included to deal with those who contravene the law. Suffice to say there is provision for a significant fine that may be imposed on anyone judged guilty of breaking the law.

Hazardous Chemicals Act

Section 7.1 of the Act requires that in the event of an accidental or unlawful discharge, emission, escape or spill of hazardous chemical at a facility for the storage, treatment or disposal of hazardous chemical, the person responsible for the hazardous chemical shall immediately on becoming aware of such occurrence take all reasonable emergency measures to protect human life and health, and the environment by confining the effects and removing the hazardous chemical. Hazardous waste is included in the definition of hazardous chemical. The person responsible in this case would most likely be the one that produces the waste on his premises, or the owner-operator of the treatment or disposal facility. If there is non-compliance, then the Government may take appropriate steps to confine and remove the spilled materials and then recover costs for so doing.

Section 7.2 prohibits anyone that produces a hazardous waste from shipping it off the premises where it was produced, if he does not have a personal identification number issued by the Director of Pollution Control. The same requirement for a personal identification number applies to anyone that transports a hazardous waste or that accepts someone else's hazardous waste for storage, treatment or disposal.

Section 7.3 requires the use of a manifest for tracking hazardous waste shipped from the place where it was produced to its ultimate destination.

Section 7.4 requires that anyone who stores hazardous waste, treats hazardous waste, operates a landfill where hazardous waste is disposed, transports a hazardous waste or provides a collection service for hazardous waste is authorized to do so by the Alberta Special Waste Management Corporation. This requirement applies to all transporters, and only those who store, treat or dispose someone else's hazardous waste as provided for by Section 3 of the Hazardous Waste Regulation.

Clean Air Act/Clean Water Act

There is a requirement to obtain a permit to construct under these Acts before constructing a hazardous waste storage, treatment, or disposal facility. Before the facility may be operated, a licence to operate is required. Application forms outline the information that must be supplied for obtaining these approvals. Design and operating requirements are documented in guidelines issued by Alberta Environment.

Summary of Requirements

The Waste Generator

The generator of waste is responsible for determining whether or not his waste is a hazardous waste that is to be regulated under the Hazardous Chemicals Act and Hazardous Waste Regulation. This is to be done by using the information provided in Section 2 of the Hazardous Waste Regulation.

The first thing to do is to determine whether the waste is exempt by virtue of it belonging to anyone of the items listed in Sections 2(b) to 2(1) of the Hazardous Waste Regulation. If it is, then the generator is to continue following current practices for treating or disposing of that waste. However, if the waste does not meet any of these descriptions, then it may be a hazardous waste.

To classify hazardous waste, it is necessary to know how the waste was produced or what is in the waste. For some wastes, it is enough to know that the waste is a product which was purchased, was transported onto your site according to the Transportation of Dangerous Goods Control Act requirements and is being discarded as waste. Then it is a hazardous waste. If the waste is produced in an industrial process or operation, it may be one of the listed waste streams. Other wastes which are mixtures or solutions that do not fit in these two categories are to be tested against the criteria that describe hazardous waste. Testing should be directed at the class to which the waste belongs based on the substances that are expected to be present in the waste as a result of the raw materials being used, the product being manufactured, the chemical reactions taking place, and other like considerations. The TDGR list of dangerous goods is a good reference for establishing which tests to do. For example, if the waste is a sediment or sludge removed from a lagoon which held a liquid wastewater that contained chromium and zinc, testing on the sediment should be done for Class 9.2 hazardous waste, as this is the most likely class that would apply because of the presence of chromium and zinc compounds. The concentration of the two metals is to be determined and if either one exceeds 0.01% by mass, then the waste is a hazardous waste. If they are below this concentration then the waste is not a hazardous waste.

After the generator determines that he has a hazardous waste, he may manage it entirely on the site where it was produced, he may send it off site to a location in Alberta for treatment or disposal, or he may send it out of the province.

If he decides to manage the waste on his own site, he should

- (a) determine whether he may dispose of the waste in a landfill on his site by reviewing the prohibitions listed in Section 17 of the Hazardous Waste Regulation,
- (b) provide a facility where the waste will be treated or disposed according to the requirements outlined in applicable Alberta Environment guidelines, and

- (c) obtain a Permit to Construct and Licence to Operate pursuant to the Clean Air Act and/or the Clean Water Act prior to constructing and operating any hazardous waste storage, treatment or disposal facility.

If the hazardous waste is to be sent out of the province, the generator must:

- (a) obtain a personal identification number from the Director of Pollution Control,
- (b) obtain a generator registration number from the authority having jurisdiction in the place where the hazardous waste is being sent,
- (c) consign waste for shipment with a transporter that has necessary authorization pursuant to the Transportation of Dangerous Goods Act,
- (d) consign waste to a facility which has approval to accept the waste, from the authority having jurisdiction where the facility is located,
- (e) generators that ship their wastes to the United States must provide notification (through Environment Canada) to the U.S. Environmental Protection Agency at least 60 days prior to making the shipment,
- (f) complete a manifest and send one copy to the Director of Pollution Control and one copy to the authority having jurisdiction where the hazardous waste is being sent, within two days from the day the waste leaves the site where it was produced,
- (g) provide a waste manifest to accompany the hazardous waste on its journey, and
- (f) report to the Director of Pollution Control, any accidental or unlawful release of hazardous waste immediately after becoming aware of the occurrence.

If the hazardous waste is sent to a destination in Alberta, the generator must:

- (a) obtain a personal identification number from the Director of Pollution Control,
- (b) consign waste for shipment with a transporter who has a personal identification number from the Director of Pollution Control,
- (d) consign the waste to a facility which has a personal identification number from the Director of Pollution Control,
- (e) send a copy of the completed manifest to the Director of Pollution Control within two days (excluding holidays) from the day the waste is shipped,
- (g) send a manifest with the waste,
- (f) report to the Director of Pollution Control, any accidental or unlawful release of hazardous waste from his facility immediately after becoming aware of the occurrence, and
- (g) retain copy of manifest for two years.

For Transporters

Transporters of hazardous waste must comply with the following requirements in the Hazardous Chemicals Act:

- (a) obtain authorization from the Alberta Special Waste Management Corporation;
- (b) obtain a personal identification number from the Director of Pollution Control;

- (c) accept only those hazardous wastes that are accompanied by a completed manifest;
- (d) endorse manifest upon accepting waste for transport and provide copies as specified on the manifest form;
- (e) deliver waste and manifest to the receiver identified in the manifest; and
- (f) retain copy of completed manifest for two years.

For Receivers

If you are receiving hazardous waste for treatment or disposal, you must:

- (a) obtain an authorization from the Alberta Special Waste Management Corporation if the waste is generated by someone other than yourself,
- (b) obtain a personal identification number from the Director of Pollution Control if the waste comes from a site other than the site where the waste is treated or disposed,
- (c) obtain an approval from the Director of Standards and Approvals to construct and operate the facility where you receive the waste,
- (d) accept only hazardous waste which is accompanied by a completed manifest,
- (e) acknowledge receipt of hazardous waste by signing the manifest which arrives with hazardous waste,
- (f) return one copy of each manifest to the generator and one copy to the carrier,

- (g) send a copy of each manifest to the Director of Pollution Control,
- (h) retain a copy of each manifest for two years,
- (i) report to the Director of Pollution Control, any accidental or unauthorized release of hazardous waste from your facility immediately after becoming aware of the occurrence.

CLOSING

I expect that there is still some confusion out there about the legislation. But at least you now know that potentially there are some new requirements for managing wastes that you produce. Get copies of the information that you've heard about today and it will help you understand. Remember that each of you don't produce all the different hazardous wastes I've talked about. I suspect that most of you can count on one hand the number of different wastes you produce. Similarly, you will ultimately choose one management option for your wastes. Once you do that, it is relatively easy to determine what you must do under the law to carry out that option.

Thank you for being an attentive audience.

ALBERTA PUBLIC SAFETY SERVICES

Legislation

Application and Enforcement

APSS



TRANSPORTATION OF HAZARDOUS WASTES IN ALBERTA

INTRODUCTION

The issues in relation to hazardous wastes is a growing concern to both industry and the public, and is perhaps one of the most significant health and environmental issues of the decade. In Alberta, it is estimated that approximately 100,000 tons of hazardous waste is generated each year. This is approximately 10% of the hazardous waste produced in Canada annually.

To put this figure in perspective, a 1984 Study (1) completed for Alberta Economic Development and Trade indicated that the annual quantity of dangerous goods transported in the Province amounts to some 7.2 million tonnes with a further 5.7 million tonnes transported by rail. Based on these figures the total production of hazardous wastes in the Province amounts to some 1.4% of the total volume of dangerous goods on the move in the province.

The industrial sources of hazardous waste generated in Canada include oil and gas exploration, primary metals industry, chemicals manufacturing and processing industries, electroplating processes, and the textile, rubber and petroleum refinery industries. Additional sources include the agricultural industry, smaller commercial companies, and households.

With the advancing technology of modern times, the volume and complexity of the hazardous wastes that are generated increases. One such example of this growth in this century is the rapid growth within the petrochemicals industry. Organic chemicals produced in the petroleum industry have made possible a host of new and useful materials. We now accept and use these products daily without thought of the unwanted by-products each has left behind. Waste materials produced in the processing of these products must be properly handled, transported and disposed of.

With the development of the Special Waste Treatment Facility in Swan Hills, Alberta has become a North American leader in the field of the hazardous waste treatment and disposal.

In December 1987, the Hon. Ken Kowalski, Minister of the Environment announced the introduction of amendments to the Hazardous Waste regulations (AR49/85) to align the regulatory requirements for waste disposal to the current policies relative to the Special Waste Management System and other regulatory requirements, including the Transportation of Dangerous Goods Control Act and Regulations. The amendments, which will come into force on April, 1988, detail the requirements for the classification, storage and disposal requirements for hazardous wastes. In terms of the transportation of wastes, the amended waste regulations are consistent with the Transportation of Dangerous Goods Regulations (TDG).

(1) Transportation of Dangerous Goods in Alberta
Stanley Associates Engineering Ltd., August 1984.

THE TRANSPORTATION OF DANGEROUS GOODS CONTROL ACT AND REGULATIONS

Before dealing with the specifics of the transportation requirements for hazardous wastes, I would like to briefly review the requirements of the Transportation of Dangerous Goods Control Act and Regulations.

In February, 1985, Transport Canada published the Transportation of Dangerous Goods Regulations, under the Transportation of Dangerous Goods Act (Ch. 36. SC). The Province of Alberta had enacted similar legislation, the Transportation of Dangerous Goods Control Act (Ch. T6.5, RSA), and in February 1986, adopted the federal regulations, thereby ensuring a consistent approach for both extra-provincial and intra-provincial shipments of dangerous goods.

Very briefly, the TDG regulations deal with those products, substances and organisms that pose a hazard to health, life, property or the environment, more specifically those substances that by their nature are included in one of the nine hazard classes will be regulated during the handling and shipping phases as a dangerous good. These hazard classes are based on the recommendations of the United Nations Group on the Transportation of Dangerous Goods and as outlined earlier are:

CLASS 1		EXPLOSIVES
CLASS 2		COMPRESSED GASES
CLASS 3		FLAMMABLE LIQUIDS
CLASS 4		FLAMMABLE SOLIDS, SPONTANEOUSLY COMBUSTIBLE MATERIALS, WATER REACTIVE SUBSTANCES
CLASS 5		OXIDIZERS AND ORGANIC PEROXIDES
CLASS 6		POISONOUS AND INFECTIOUS SUBSTANCES
CLASS 7		RADIOACTIVE MATERIALS
CLASS 8		CORROSIVES
CLASS 9		MISCELLANEOUS DANGEROUS GOODS

CLASSIFICATION, DOCUMENTATION, AND SAFETY MARKS

Part III of the TDG regulations specify the criteria for the classification of the particular chemical into one or more of these hazard classes. Once this has been done, the shipper of the dangerous good is then required to comply with the Documentation and Safety Mark requirements of the legislation. These are detailed in Parts IV and V of the regulations. Very briefly, every shipment of dangerous goods must be accompanied by a shipping document detailing specific hazard data and is designed to provide emergency response forces with details of the load in the event of an incident.

In terms of the Safety Marks, each small container containing the products must be marked with a diamond shaped, colour coded label providing basic identification data on the product. Additionally, the vehicles hauling the goods must be similarly marked with larger diamond shaped placards.

CONTAINER STANDARDS

There are in development at this stage detailed specifications for the small packagings, containers and the construction standards for the transport units used in the transportation of these products. The amendments introducing these packaging standards were published for comment by Transport Canada in the summer of 1987. I anticipate that these standards will be finalized later this year. In this case the packagings and vehicles used for the transport of these dangerous goods will be required to meet specified minimum standards.

TRAINING AND REPORTING

A major part of the TDG regulations is devoted to the requirements for the training of employees in the handling and transporting of these products and the reporting requirements in the event of an accident or spill in the course of transportation.

OTHER REQUIREMENTS

Other additional requirements include special handling and transportation requirements for some classes of dangerous goods and the requirement for companies shipping certain products to have in place an Emergency Response Assistance Plan, whereby the company must prepare and file a contingency plan for providing assistance to the emergency response forces in the event of an incident. In general, this requirement is laid down for what are considered to be the more hazardous dangerous goods, the so called Schedule XII dangerous goods.

EXEMPTIONS AND PROHIBITIONS

As with all legislation there are variations in terms of requirements based on specific chemical or transport situations. These may well be more stringent or in fact some relaxation of specific regulatory requirements. In these situations the text of the TDG regulations should be consulted to determine the precise transportation requirements.

THE TRANSPORTATION OF HAZARDOUS WASTES

Turning to the subject of wastes. The Federal TDG regulations define wastes and waste dangerous goods, and under the current jurisdictional split between the federal and provincial governments should be the reference document for the transportation of wastes beyond the borders of the province. For intra-provincial transportation, although the province has adopted the federal regulations, the provincial Hazardous Waste Regulations do, in fact, legislate additional requirements for the movement of the waste.

CLASSIFICATION

As for all dangerous goods shipments, the first step in the transportation process is that of classification. The wastes are classified according to the requirements of Part III of the Transportation of Dangerous Goods Regulations. As a result the shipping name, class, packing group, and any special requirements for the waste can be determined according to the T.D.G. rules.

DOCUMENTATION

The next step is to prepare the documentation. It must be noted that the Alberta Regulation 49/85 as amended, adopts the hazardous waste manifest outlined in the T.D.G. Regulations. Each shipment of waste must be accompanied by a completed shipping document, in this case, the hazardous waste manifest. There are specific requirements with respect to the disposition of the waste manifest. The generator, carrier(s) and receiver of the waste all have specific responsibilities in this area.

In addition to the requirements of the TDG regulations, Section 7.3(1) of the Hazardous Chemicals Act specifies that a manifest is required for hazardous wastes. The manifest must accompany any hazardous waste which is consigned, transported, or accepted for transportation, storage, treatment or disposal. All applicable parts of the hazardous waste manifest must be completed. Information required on the manifest includes specific details of the generator, carrier(s) and the receiver. Additionally, the waste manifest requirements include the details of the shipment that are included in the TDG requirements for shipping name, UN or Product Identification Number (PIN), classification, and packing group.

A manifest is a multi copy shipping or tracking document which identifies the type of hazardous wastes and accompanies the shipment of wastes from the point of generation, through the actual transportation phase, and on to the facility treating, or disposing of the hazardous waste. The manifest documentation identifies each of the parties involved, and as the waste is moved, the Hazardous Waste Regulations specify which parts of the manifest must be completed, and how the various copies of the manifest must be retained, returned or submitted to the various parties involved and to the Waste Management Branch of Alberta Environment.

The copies are retained to show that the hazardous wastes have indeed moved from the generator to the receiver as originally intended. Alberta Environment monitors the manifests and movement of wastes to confirm that the hazardous waste has moved from the generator to the receiver, and has been received by the receiver. Although the manifest is an after the fact tracking system, Alberta Environment's computer tracking system provides the means by which the regulators can confirm that the waste has been properly handled.

In completing the manifest form, generators, carriers and receivers of the hazardous waste must have personal identification numbers. These personal identification numbers are obtained, upon application, from the Director of Pollution Control, or through the Waste Management Branch of Alberta Environment.

For generators, the personal identification number will be confirmed after the generator application form (supplied by Alberta Environment) has been duly completed and returned to the Director of Pollution Control.

For receivers, personal identification numbers will be assigned once the receiver has obtained a licence to operate (Clean Water Act or Clean Air Act) from the Director of Standards and Approvals, at Alberta Environment and has obtained authorization (to receive hazardous wastes) from the Alberta Special Waste Management Corporation.

It must be noted that it is the generator's responsibility to complete the manifest including the personal identification numbers. Hazardous Wastes should not be transported or accepted for treatment unless the manifest has been duly completed. Fines up to \$10,000.00 are provided under the Hazardous Chemicals Act for convictions of contraventions, in relation to manifest requirements.

DISPOSITION OF THE MANIFEST

The Hazardous Waste Regulation specified the disposition of the manifest. This is an additional requirement to that legislated in the federal TDG Regulations. The Responsibilities of the various parties are as follows:

Generator:

- (i) Ensure all required information shown on the manifest.
- (ii) Certify the consignment on all copies of the manifest.
- (iii) Ensure that the carrier verifies and certifies acceptance of the shipment for transport.
- (iv) Mail copy 1 to Director of Pollution Control within 2 days.
- (v) Retain copy 2 for 2 years.
- (vi) Give copies 3 through 6 to the carrier.
- (vii) When returned from receiver, retain copy 6 for 2 years.

Carrier:

- (i) Verify and check the manifest documentation.
- (ii) Certify acceptance of the load.
- (iii) Return copies 1 and 2 to the generator.
- (iv) Deliver copies 3 through 6 to the receiver with the load.
- (v) Retain copy 4 for 2 years after receiver certifies receipt of the shipment.

Receiver:

- (i) Verify and certify receipt on copies 3 through 6.
- (ii) Return copy 4 to the carrier.
- (iii) Main copy 3 to the Director of Pollution Control within 2 days.
- (iv) Retain copy 5 for 2 years.
- (v) Mail copy 6 to the generator.

MULTIPLE CARRIER DOCUMENTATION

The newly amended Hazardous Waste Regulation now prescribes the manner in which the manifest must be used when multiple carriers are involved. In essence, one manifest must be completed by the generator for each carrier involved in the movement of the hazardous waste.

SAFETY MARKS

The requirements of the T.D.G. Regulations for labelling and placarding must be complied with during the handling and transportation phases. Note that the 500 kg exemption for placarding of some classes of dangerous goods does NOT apply to wastes. Wastes will therefore be subject to more stringent safety marking requirements.

CONTAINER STANDARDS

In the summer of 1987, Transport Canada published details of proposed container standards in Canada Gazette I for comment. Once these standards are implemented in the TDG Regulations, they will apply to the transportation of hazardous wastes.

OTHER REQUIREMENTS

All other requirements under the TDG regulations; (eg.: training, emergency response assistance planning, reporting) will still apply to the transportation of hazardous wastes.

In addition, carriers who haul hazardous waste are required to obtain a provincial carriers registration number from Alberta Environment before they can transport hazardous waste. This number must appear on all manifests related to hazardous wastes and can be obtained by contacting the Pollution Control Division of Alberta Environment at (403) 427-5868.

In general, the exemptions under the TDG Regulations will apply to hazardous wastes. There are some differences, however, particularly in the area of small quantity exemptions. The Hazardous Waste Regulations should be consulted for specific details in this area.

Alberta Public Safety Services Compliance Information Centre is available to provide advice and assistance to transporters of hazardous wastes. The Centre can be contacted toll free 24 hours a day at 1-800-272-9600, (422-9600 in the Edmonton area).

THE ROLE OF ALBERTA PUBLIC SAFETY SERVICES

The Dangerous Goods Control Division of Alberta Public Safety Services is responsible for the administration of the Transportation of Dangerous Goods Control Act which came into force in early 1986. This Act regulates the handling, offering for transport and the actual transportation of dangerous goods on Alberta's highways. The products or materials which are regulated include all hazardous wastes which meet the criteria established for dangerous goods under Part III of the Regulations.

The Alberta legislation is fully consistent and compatible with federal legislation which is used to regulate similar activities with respect to the air, rail and marine modes of transport. The Dangerous Goods Control Division works very closely with Transport Canada as well as other provincial and territorial jurisdictions in an effort to ensure national uniformity in relation to all laws covering the movement of dangerous goods and to encourage the orderly implementation of the program throughout Canada. The prime objective during the implementation process has been to maximize public safety without imposing undue economic burdens on industry.

In order to achieve this objective, program delivery has continually encouraged industry to voluntarily comply with this relatively new legislation. For the most part, detected non-compliance has been dealt with on the basis of educating violators as to their newly acquired responsibilities. The program has now reached the stage, however, where prosecution is being used in an effort to achieve maximum compliance with the legislation. Since May 1st of last year, 14 charges have been laid under the Act.

Seven Dangerous Goods Facilities Inspectors are stationed at five locations throughout the Province with two Inspectors in each of Calgary and Edmonton and one each in Grande Prairie, Lethbridge and Red Deer. The prime function of these Facilities Inspectors involves the inspection of shippers' facilities in an effort to ensure that they are complying with the legislation. When an Inspector finds evidence that a particular operation is not in compliance, efforts are made to educate the offending party to assist them in achieving compliance. In addition, a warning ticket will likely be issued and, in the case of serious or repetitive offences, prosecution of the violator is considered.

Enforcement of the legislation on Alberta's highways is carried out by existing enforcement agencies throughout the province. At this point in time, a total of 506 On-Highway Inspectors have been designated as On-Highway Inspectors under the Transportation of Dangerous Goods Control Act. These Inspectors are employed by various law enforcement agencies which include the Royal Canadian Mounted Police and Alberta Motor Transport Services as well as every City and Town Police Department in the province.

On-highway Inspectors conduct vehicle inspections to determine whether or not carriers are in compliance with those portions of the legislation which regulate the placement of safety marks, the documentation which must accompany a shipment and the training certificates which must be carried by drivers who are transporting regulated quantities of dangerous goods. When non-compliance is found, appropriate corrective action is taken through the familiarization of the carrier with the requirements of the law, the issuance of a warning ticket as well as the laying of charges where appropriate. On-highway Inspectors play an extremely important role in delivery of the program in that they serve as the eyes and ears of the Facilities Inspectors in identifying those shippers who, for one reason or another, are not complying with the legislation.

The future direction of the program will involve continued focus on encouraging industry to voluntarily comply with the legislation. We have, however, reached a point in program delivery where prosecution is being used more extensively as a mechanism to ensure compliance. This trend will continue to increase during the next couple of years.

ATTACHMENTS

THIS MANIFEST COMPLIES TO ALL FEDERAL AND PROVINCIAL TRANSPORT AND ENVIRONMENTAL LEGISLATION REQUIRING MANIFESTING

MANIFEST-MANIFESTE

CE MANIFESTE EST CONFORME AUX LEGISLATIONS FEDERALE ET PROVINCIALE SUR L'ENVIRONNEMENT ET LE TRANSPORT. IL OBTIENT UN MANIFESTE

[illegible]

GENERATOR.

A CONSIGNOR (GENERATOR) EXPÉDITEUR		Province ID No. - N° d'id. province	
Company Name - Nom de l'entreprise			
Mailing Address - Adresse postale		City - Ville	Postal Code - Code postal
Shipping Bill Address - Adresse de l'expédition			
City - Ville		Prov.	Postal Code - Code postal
Invoice Consignee - Destinataire prévu		Province ID No. - N° d'id. province	
Address - Adresse		City - Ville	Postal Code - Code postal
Receiving Site Address - Destination de l'expédition			
City - Ville		Prov.	Postal Code - Code postal

Physical State - État physique	Shipping Name of Goods - Appellation réglementaire du produit	Weight Identification - Identification du poids		Quantity Shipped - Quantité expédiée	Units L or kg / Unités	Classification	Packaging - Emballage	Packaging Comments	
		10" Pallet No. (Quebec - Ontario only) (Quebec - Ontario seul)	TDGA PIN (LTD NIP)					No. - N°	Comments - Commentaires

Special handling Emergency instructions - Instructions spéciales d'urgence

Attached ☐ C-attaché

Seal ☐ C-scellé

Consignment No. - Québec only
N° de consignment - Réservé au Québec

Date Shipped - Date d'expédition

W - An - Mo - Jour - Jour

Time - Heure

☐ AM ☐ PM

Scheduled Arrival Date - Date d'arrivée prévue

W - An - Mo - Jour - Jour

Consignor Certification - I declare that the information contained in Part A is correct and complete.
 Déclaration de l'expéditeur - Je déclare que l'information contenue à la partie A est exacte et complète.

Name of authorized Person (only) - Nom de l'agent autorisé (seulement d'impression)

Signature

Total No. pieces (Units) - N° de tot. (unit. exp.)

CARRIER

B CARRIER TRANSPORTEUR		Permit ID No. - N° d'id. permis	
Company Name - Nom de l'entreprise			
Address - Adresse			
City - Ville	Prov.	Postal Code - Code postal	
Vehicle - Véhicule		Registration No. - N° d'immatriculation	Prov.
Tractor Pull Car No. 1 - 1 ^{er} tracteur - camion			
Tractor Pull Car No. 2 - 2 ^e tracteur - camion			
Point of Entry Point d'entrée		Point of Exit Point de sortie	
Carrier Declaration: I declare that I have received notice as offered by the consignee in Part A for delivery to the intended consignee and that the information contained in Part B is complete and correct. Déclaration du transporteur: J'affirme avoir reçu les avis offerts par l'expéditeur dans la partie A en vue de leur livraison au destinataire choisi et que les renseignements fournis à la partie B sont complets et exacts.			
W - An	Mon - Mois	Day - Jour	Name of authorized person (print) Nom de l'agent autorisé (impression)
Signature			Tel. No (Area Code) - N° de tel. (ind. reg.)

RECEIVED

Reference No. 1 of Other Markings (cont) If 1 to reference this address markings station													
C CONSIGNEE(RECEIVER) DESTINATAIRE						Previous ID No. - N° d'id. précédent 							
Consignee information taken as in Part A L'information à fournir par le destinataire est la même qu'en A													
☐													
IF NOT COMPLETELY SHADED AREA - SHEN REMPLI L'ESPACE OMBRAGÉ													
Company Name - Nom de l'entreprise													
Address - Adresse													
City - Ville						Pcp		Postal Code - Code postal					
Receiving Site Address - Dénomination de l'expéditeur													
City - Ville						Pcp		Postal Code - Code postal					
Date Received - Date de réception Yr - An Mon - mois Day - jour				Time - Heure				☐ A.M. ☐ P.M.					
Quantity Received Quantité reçue		Units L or du kg Unités		Identify Any Significant Occurrence Problèmes. Attach Addendum if Necessary. Indiquer toute différence relative à l'expédition. Joindre une feuille de brouillon				Handling Code (de manutention)		Description Description			
Yes Oui		No Non		Yes Oui				No Non		Yes Oui		No Non	
☐		☐		☐				☐		☐		☐	
☐		☐		☐				☐		☐		☐	
☐		☐		☐				☐		☐		☐	
☐		☐		☐				☐		☐		☐	
If Handling Code "Other" (Specify) Si code de manutention "autres", spécifier													
It needs to be transferred quickly (marked company note) Si les déchets doivent être transférés, préciser le nom du destinataire								Previous ID No. - N° d'id. précédent					
Address - Adresse								City - Ville					
Address - Adresse								Pcp					
Consignee Certification: I declare that the information contained in Part C is correct and complete. Déclaration du destinataire: Je déclare que tous les renseignements à la partie C sont corrects et complets.													
Route of authorized Person (print) Nom de l'agent autorisé (inscrivez le nom)													
Signature						Tr. No (avec Code) - N° de tr (avec sig.)							



**ROLE OF THE ALBERTA SPECIAL WASTE
MANAGEMENT CORPORATION**

**Alberta Special Waste
Management Corporation**



Role of the Alberta Special Waste Management Corporation

Throughout this presentation I will make reference to certain acts, regulations, agreements and government objectives or policy. All of these references are available to the public and should be examined before reaching conclusions as to interpretation or required action. In the interest of time and for illustrative or explanatory purposes, I will paraphrase, provide interpretations and abbreviate. While I have attempted to present this material as accurately and honestly as possible, it should not be assumed to be either complete or legally accurate.

BACKGROUND

The matter of special/hazardous or toxic waste management is an incredibly complex one. It affects everyone of us. It is a subject of worldwide concern. It generates anxieties of a nature that can be characterized as political, environmental and psychological. For the business man, whether he serves a local, national or international market, additional anxiety will centre around economic survival.

In order to help understand a bit of the ASWMC's role in the management of hazardous waste in Alberta, I would like to review some of the process leading to the present.

- 1979 - Studies indicate Alberta has a special waste problem that must be dealt with. Government appoints committees, initiates hearings and requests recommendations to solve the problem.
- 1981 - Public participation and site selection programs are launched with the objective of finding socially and environmentally suitable sites for special waste facilities.
 - Recommendations are received that suggest one special waste treatment centre should be built, that it should be owned and operated by the private sector and that a crown agency should be established to oversee or manage a special waste system in Alberta.
 - Government accepts these recommendations and provides direction for implementation
- 1982 - Proposals to build and operate a treatment centre are received from 19 companies (a competition that was international in nature). Chem-Security Ltd. is accepted.
 - The Special Waste Management Corporation Act is passed by the Alberta Legislature but not proclaimed.
- 1984 - A site is announced for location of a treatment facility about 18 km. northeast of the Town of Swan Hills.

- The Alberta Special Waste Management Corporation (ASWMC) comes into being.
 - Members of the Corporation are appointed by Order in Council (the Act specifies these are to be a minimum of five in number).
 - Bow Valley Resource Services Ltd. (BVRs) acquired Chem-Security Ltd. (CSL). Negotiations are started between BVRs, CSL and ASWMC.
- 1985 - Construction is started on Treatment Centre.
- Government approval is given to proceed with negotiations on the basis of a joint venture with BVRs owning 60%, the ASWMC owning 40% with CSL as operator.
- 1986 - Government approves the principles of a Joint Venture Agreement.
- 1987 - Government approves the Joint Venture Agreement.
- A Construction and Operating Agreement is executed by BVRs, ASWMC and the operator, CSL.
 - The treatment centre near Swan Hills is officially opened on September 11, 1987.

ROLE

- As with any business, the ASWMC must orchestrate a number of factors in order to achieve the desired results. Some of these factors fall under legislation, government and public objectives, and agreements.

Legislation

- The defined role of the Corporation is covered under two acts. The first, already mentioned, is the Special Waste Management Corporation Act, SA 1982 Chapter S-21.5, proclaimed in force April 1, 1984. The second is the Hazardous Chemicals Act, RSA 1980 chapter H-3. The relevant sections of this latter are 7.4 subsections (1) and (2) included in revisions in 1984.
- In general these acts define the Corporation's responsibilities as follows:

SLIDE #1

- Ensure establishment, operation and maintenance of a system and facilities for special waste management.
- This must be done in a manner that
 - a) Protects the health and safety of the public and
 - b) Protects the environment

- Ensure this protection during operation and after closure of any facilities.
- Authorize establishment of special waste management facilities for off-site storage, transfer/collection and treatment.
- Ensure establishment of facilities in the private sector wherever practical.

Government Objectives Special waste management objectives have been publicly discussed by the Minister of Environment and some of these have a direct bearing on the activities or role of the ASWMC.

i) We must do what is practical in order to achieve the 4 R's of waste management.

- Reduction of waste produced
- Reuse what we can
- Recycle what we can
- Recover some energy

ii) Effective management of special waste should not unduly burden the regulated community.

- Public Objectives
- The public wants strong assurances from government that special wastes will be handled, transported and disposed of in a safe manner.
 - They want to know their health and safety and that of their children is not being compromised by mismanagement or carelessness.
 - They want to be kept informed about what is happening - NO SECRETS.

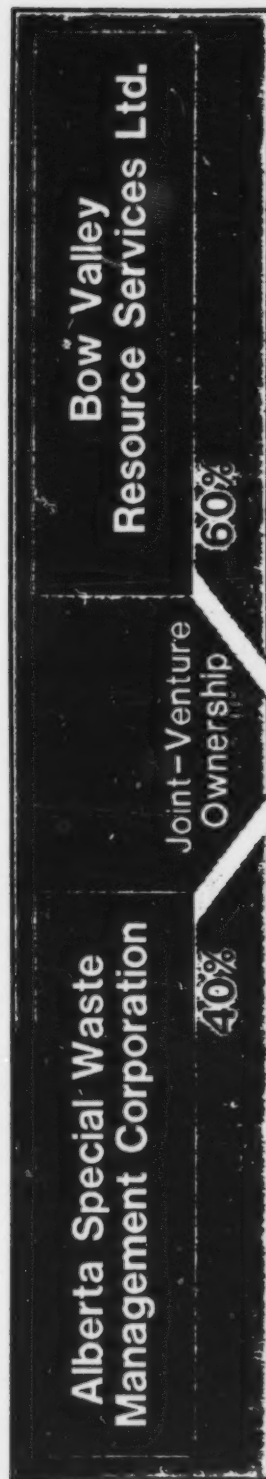
Joint Venture Agreement SLIDE 2

Venture

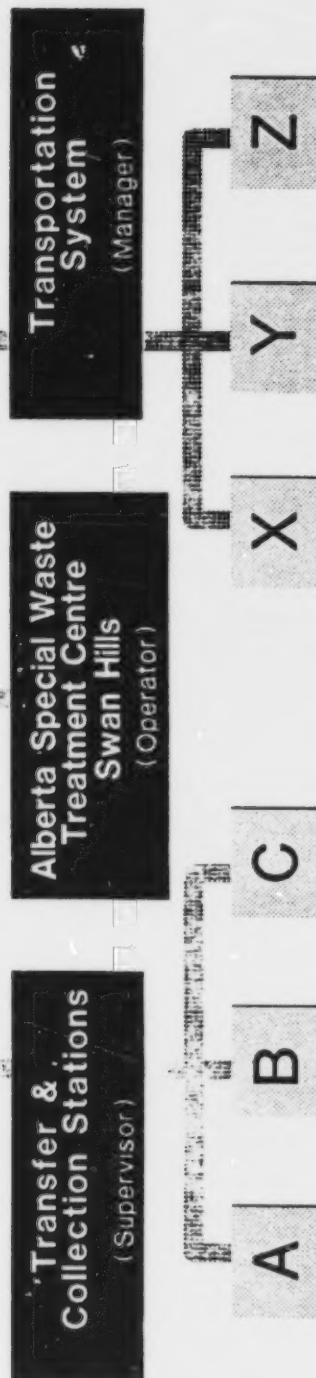
Agreement

The joint venture is a working interest arrangement with BVRS owning 60% and ASWMC owning 40% of the treatment centre and certain other assets. Chem-Security (Alberta) Ltd. has as its only reason for existence in Alberta the supervision, operation and management of the Alberta Special Waste Management System. They will do this by operating the treatment centre near Swan Hills; they will wherever possible contract out the operation of transfer and collection stations and supervise their operation; and, they will manage the transportation to the treatment centre. The actual trucking is contracted to owner/operators of tractor units. Specialized equipment such as trailers, marine type shipping containers, tankers and bulk solids units are leased or owned by the joint venture depending on business wisdom.

Ownership and Operation



Chem - Security (Alberta) Ltd.
Supervisor / Operator / Manager



- Municipalities
- Private companies
- Contractors

- Owner / operators

SLIDE 3

The Joint Venture Agreement is 70 pages in length and has added to it several schedules such as the agreed rate of return formula and the Operating Agreement. Other schedules, mostly in the form of agreements, will be added in the months ahead.

This slide paraphrases only a few of the agreement articles to illustrate their effect on the ASWMC role in the system and the impact on the business community.

- Owners supervise and control the joint venture through a Joint Venture Board.
- The Joint Venture Board is comprised of three members from each of BVRS and ASWMC.
- Each owner exercises only one vote.
- Open market rates will be comparable to those charged in an open competitive market in comparable jurisdictions for equivalent collection, transportation, treatment and disposal of special wastes.

- Price ranges called "Market Service Rates" may be established by the Corporation if it is deemed appropriate.
- The Joint Venture is guaranteed a minimum income until or unless certain defined conditions are present.
- The treatment centre near Swan Hills will be the sole and exclusive off-site facility for the treatment and disposal of special wastes in Alberta subject to the law governing such treatment and disposal. This provision operates at least until 1994 and thereafter depending on capacity or throughput conditions.
- A review of the agreement in June 1989 is provided for, and changes to the agreement can be requested by Government.
- The agreement can be terminated by either party, from time to time, for causes outlined in the agreement.
- The pricing aspect deserves some explanation in terms of its application.

First it is recognized that Alberta's regulations will not be the same as those in the rest of Canada and in the U.S.A. Secondly, it is recognized that waste treatment and disposal options will not be the same in all places.

What this may mean to you is that if it is possible to transport your waste to another jurisdiction and dispose of it to say a landfill at less cost than the Alberta treatment option, you may be able to get a reduced market price. Whether other jurisdictions would look favourably on such importation and disposal is another question. In any event, the ASWMC would like to know of such matters.

Another aspect you should be aware of is that if you can show you are being unduly disadvantaged in the market place because a competitor of yours outside of Alberta is getting his waste treated at a reduced price to the point it materially affects your ability to compete, the ASWMC would like to discuss the problem with you. We may be able to help.

Application - To bring all of this into focus, I will now talk about some of the decisions that have been taken, some that are still in the development stage and generally the approach being taken to put in place an effective special waste management program in Alberta.

SLIDE 4

Waste
Profile

The greatest difficulties, in designing a special waste management system that must handle all chemical waste in a given area, are encountered when you ask "How much is there?" and secondly "What is it?" and thirdly "Where is it?". This slide shows some volume estimates made in 1979 and 1982 by two different firms (92,000 tonnes and 216,000 tonnes). The estimates indicate that 68% might be produced in the Edmonton area, 12% in the Calgary area and thus 20% would come from other parts of the province. A further refinement of the waste data suggested that 3/4 or 75% of the waste would be organic in nature.

Design
Basis

The next tough question was "How much of this waste will be required to be treated at the treatment centre?". This is a moving target which is directly affected by such things as

- Regulations governing disposal options
- Technology changes undertaken by industry to reduce, reuse and recycle waste
- The cost of treating waste
- The extent of on-site treatment by industry

Research told us that we could reasonably expect to have to treat 20% to 25% of the waste that was statistically calculated to be generated in Alberta.

This leads us to the next series of decisions.

SLIDE 5

It was decided to build a treatment centre with an infrastructure which could serve us well for many years to come. I am referring to such things as administration and laboratory facilities, maintenance and operations building, utility services, and space for disposal of treated solid and liquid residues.

It was further decided that initial process capacity should be around 15,000 to 20,000 tonnes per year with a capacity to incinerate about 75% of the waste. The process capacity can be expanded at will if or when the need arises.

Transfer/ In making decisions with respect to transfer and collection,
Collection and transportation needs, we had to determine how much waste
 would be produced by high volume generators where it would
 be practical and economic to take their waste directly to
 the treatment centre. Our best guess is that this may
 represent 85% of the waste stream. The balance would then
 require access to some facilities where the wastes could be
 collected until full loads were available. If the
 distribution of this smaller volume is proportionate to
 population we could expect about one-half or 7 1/2% of the
 waste stream to be generated in Edmonton and Calgary.
 The other 7 1/2% would be distributed throughout the rest of
 the province. Looking at this scenario and with little else
 but "guesstimating" to go on, we decided to make provision
 for collection stations in Edmonton and Calgary. We hope to
 utilize facilities that already exist at Nisku and the East
 Calgary landfill.

As an interim measure for the remaining waste, CSL will arrange for a scheduled pick-up procedure that may ultimately lead to establishing a more sophisticated network.

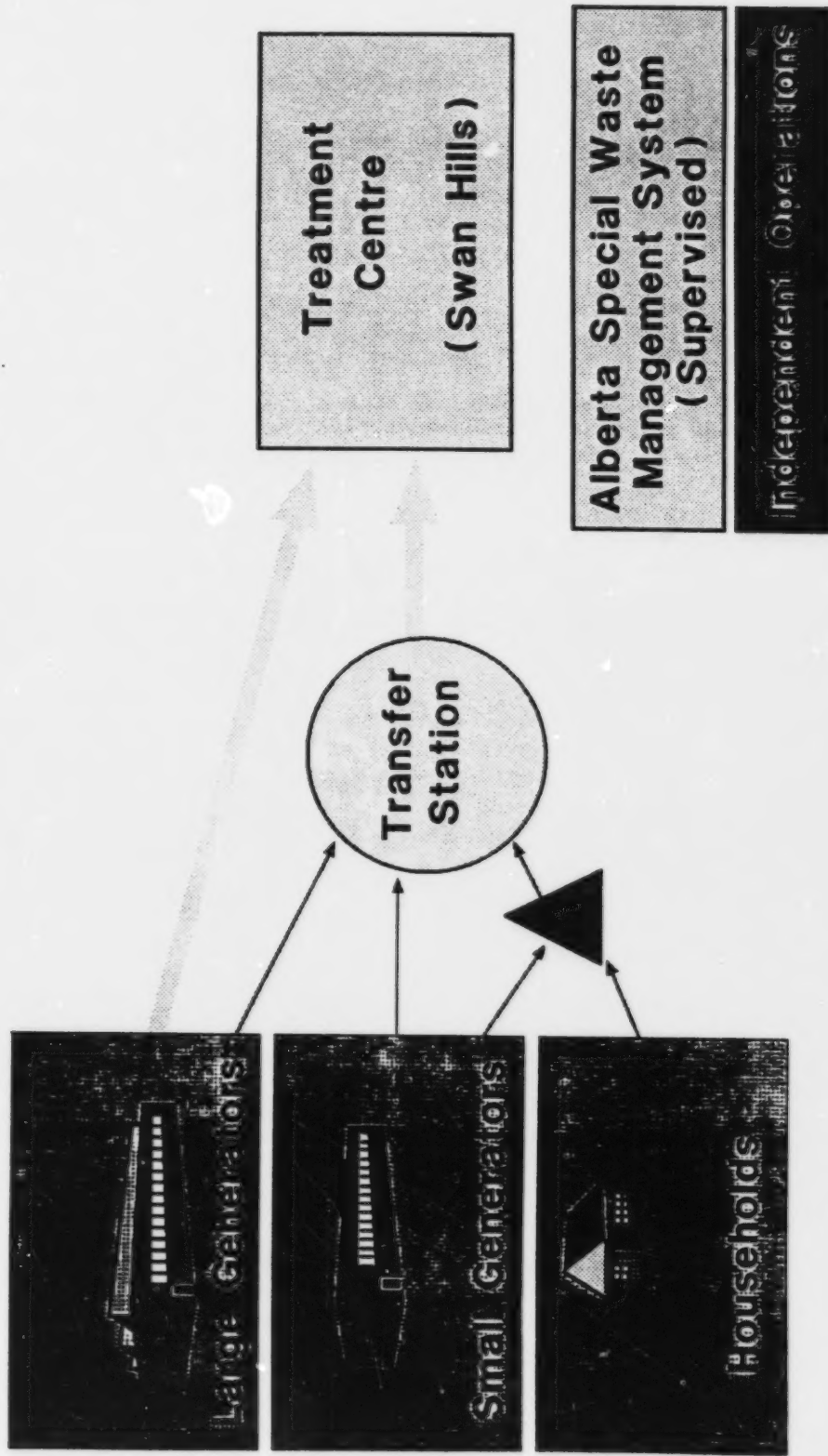
Let there be no mistake about the public concern over management of hazardous waste. In a recent attitude survey we found that 80% of those surveyed want special waste collected far outside the city. We will need your public support for sensibly located collection stations. If these stations are not located reasonably close to the point of generation it will be very costly to get the wastes, from smaller generators, out of the community.

System

SLIDE 6

This slide shows a basic system schematic and will give you a better visual idea of how we expect wastes will be managed. The yellow arrows, circle and box indicate those areas of management, supervision and operation that are carried on by Chem-Security (Alberta) Ltd. In other words these are the areas in which the Joint Venture has a degree of control.

System Schematic



Private
Sector

Later in this seminar Rod Leland will be telling you how to get special wastes into the system and I'm sure many will recognize a need for help and/or further education.

ASWMC has taken steps to encourage the development of a special waste management service industry. Initially we will be holding workshops with interested firms to help identify the service needs in Alberta. We then plan to publish a directory which may be useful to you. As soon as possible that directory will be turned over to private organizations or associations for continuity. A few of the areas we think can be serviced by outside parties are as follows.

SLIDE 7 - Potential Business Opportunities

1. Consulting and advice to generators
2. Identification and analysis of waste
3. Handling and packaging of waste
4. Site rehabilitation
5. Emergency response/spill clean-up
6. Transportation of waste to collection centres and approved landfills
7. Design and construction of facilities
8. Training and education programs
9. Operation of transfer/collection stations
10. Brokerage services for generators

Example

To give you one small example of what is ahead. Let us assume that a firm generates a gallon or two of special wastes each month. At present they are pouring the daily quantities down the drain. The first thing he must determine is the chemical make-up of the waste compound. Next he should check to see if disposal to the sewer is permitted by local bylaw. He should then check to see what the Hazardous Waste Regulation has to say about that waste and then he must decide what to do.

This firm might then want to assess whether treatment at the center near Swan Hills isn't the best choice even though the regulations, in their strictest interpretation, permit a less costly alternative. In making this decision, the firm will want to consider the long term liability question and the question of public concerns and image.

By-Laws

We have examined certain city sewer by-laws and suggest that if you are disposing chemical waste to the sewer you should examine these closely. We have taken the liberty of providing a few copies at the registration desk. If there are not enough copies, you can get one by calling your local sanitation department; the registration desk can also provide you with a telephone number.

Communications/
Liaison

The Corporation staff (seven in number) spends significant time on public communications such as:

- Seminars, workshops and speaking engagements
- Responding to public concerns and meeting with local liaison committees which have been developed with our encouragement.

Because waste management involves municipal, provincial and federal jurisdictions and many governmental agencies, there is frequently a need for round table discussions and task groups to resolve difficulties and implement action. The Corporation plays a role in bringing this about.

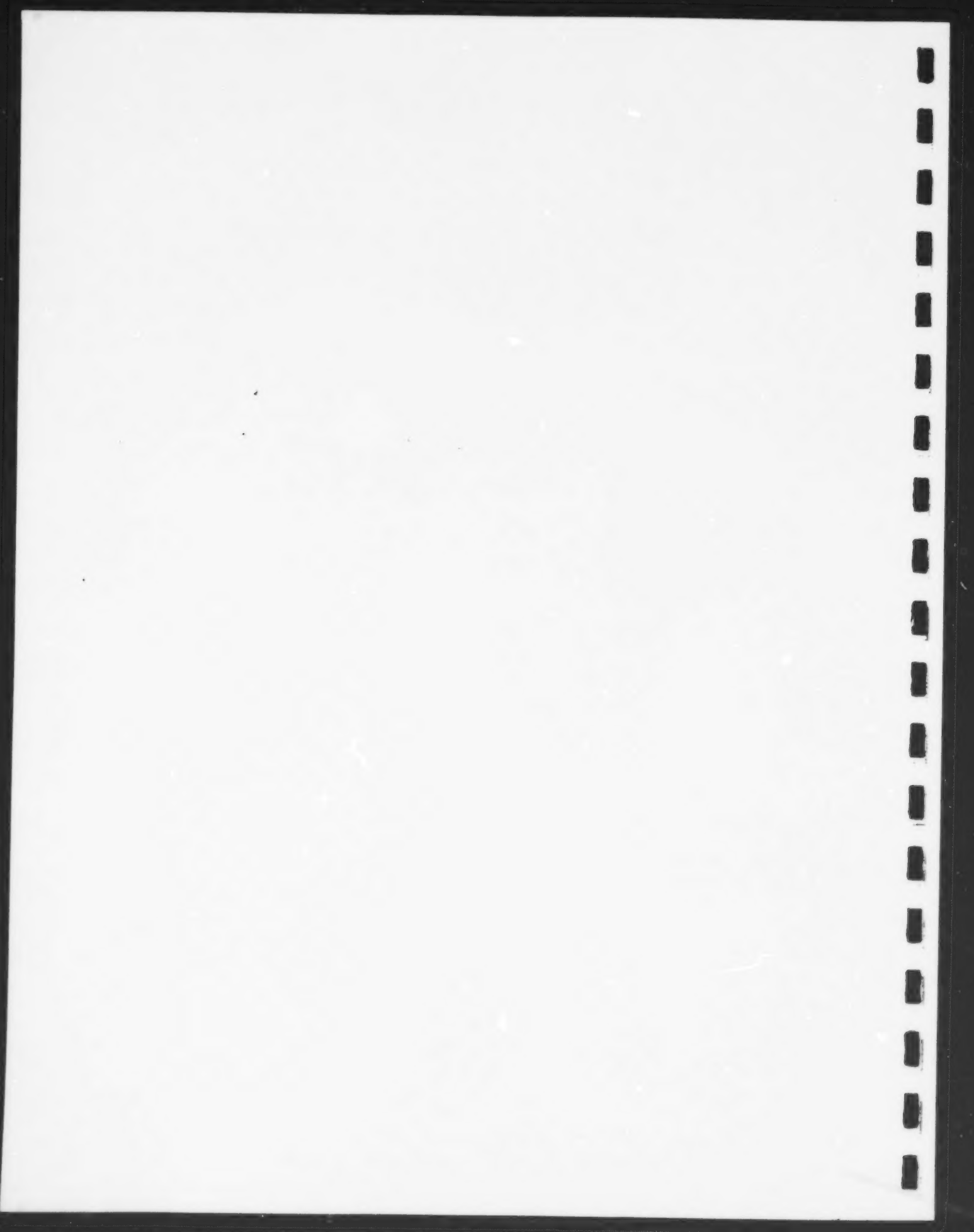
- Business organizations and individual firms, at times, have difficulties with a specific problem or have suggestions about development of the special waste management procedures. The Corporation does its best to get these difficulties resolved and helps to ensure that the best ideas and solutions are incorporated in management procedures. The special waste

management system has been put in place to protect the health of the public and the environment and provide a service to the public and industry. If it is not achieving these objectives or it can do a better job, then the ASWMC wants to know about it. We are strongly oriented to making the system work and getting the job done; we don't have the time or the resources to play bureaucratic games.

- The Corporation is committed to a broad information and education program. Many of you will have seen our newsletter "Collections". You may also have seen the advertising and TV commercial with the hand ripping up turf and a broom sweeping garbage under the "carpet". This was our first step to increase awareness about special waste management in Alberta. You will see more in the future and the emphasis will be on what special wastes are and the need for public involvement to solve the problem of pollution from special wastes.

"Are there any questions?"

THE END



ENERGY RESOURCES CONSERVATION BOARD

ERCB

OILFIELD WASTE ↔ HAZARDOUS WASTE

ERCB APPROACH TO WASTE MANAGEMENT

1. ERCB approves oily waste treatment facilities
 - inspects, monitors, and enforces environmental policies
2. ERCB approves design and location of disposal wells
 - inspects and monitors the operation of wells
3. ERCB approves disposal of oilfield waste
 - exempt from hazardous waste regulations
 - frequent liaison with Alberta Environment and other government departments is required because oilfield waste and hazardous waste are not distinctly separate in all cases
4. ERCB does not approval any disposal of hazardous waste
 - disposal approved by Alberta Environment
 - at Swan Hills facility or other approved landfill or disposal well

CURRENT POLICY INITIATIVES ON OILY WASTE

- encourage volume reduction and recycling
- elimination of disposal to unsecure landfills
- development of central processors
- elimination of routine disposal to roadways
- development of technologies to process oily waste (in cooperation with the industry)
- investigations into toxicity and ultimate fate of oilfield waste materials
- encouragement of treatment and possible incineration as opposed to land disposal options

RELEVANT LEGISLATION

- Oil and Gas Conservation Act and Regulations
- Oil Sands Conservation Act and Regulations
- Pipeline Act and Regulations
- various directives and policy letters

IMPACTS ON ERCB OPERATIONS

New initiatives in hazardous waste management will mean oilfield operators and waste handlers will be in contact with the ERCB on questions of proper disposal practices

- ERCB may have to improve its analytical capability to characterize potentially hazardous material
- ERCB will have to develop a close liaison with the Alberta Special Waste Management Corporation

DEFINITION OF OIL WASTE AND OILFIELD WASTE

- contaminated sulphur
- drilling and completion material
- produced water
- production material and cleanup debris
- clean sand from in situ heavy oil production
- various solid materials: dessicants, scavengers, etc.
- miscellaneous fluids: inhibitors, demulsifiers, etc.

THE OIL FIELD EXCEPTIONS

- drilling and completion fluids,
- produced water,
- oily waste, or
- other waste material from a well,
 - production installation,
 - pipeline,
 - oil sands operation,
 - gas processing plant, or
 - waste processing
 - and disposal facility

WASTE PROCESSING & DISPOSAL FACILITIES

APPROVED

Carbt Oil Ltd.
Bernie Parada
Box 548
Eckville, Alberta
TOM OXO

Phone: Office 746-2141
Plant 575-3911

OP - DL8

PLANT LSD 12-30-34-9 W4M
SATELLITE LSD 10-36-35-20 W4M

FLD - 750
FLD - 371

BTY - 654
BTY - 653

Nalcan Oil Field Disposal
Murray Swanson
R.R.#2
Grande Prairie, Alberta
T8V 2Z9

Phone: 539-5324

OP - EL2
FLD - 359
BTY - 658

LSD 6-2-71-6 W6M

Newalta Eckville
Terry Boubonnie
Suite 1910, Suncor Tower
500 - 4th Avenue S.W.
Calgary, Alberta
T2P 2V6

Phone: 746-2092

OP - AW6
FLD - 604
BTY - 650

LSD 11-21-39-3 W5M

Pembina Oil Separators (1978) Ltd.
Bob Barker
Box 1478
Drayton Valley, Alberta
TOE OMO

Phone: Office 542-4733
Plant 542-4626

OP - EK2
FLD - 685
BTY - 675

LSD 12-28-48-7 W5M

Recoil Central Treating
Cliff Damberger
Box 361
Taber, Alberta
TOK 2G0

Phone: 223-3033

OP - FB2
FLD - 893
BTY - 664

LSD SE1/4-29-9-17 W4M

WASTE PROCESSING & DISPOSAL FACILITIES

APPROVED

Western Crude Processors
Wes Hahn
Box 416
Swan Hills, Alberta
TOG 2C0

Phone: 551-0006

OP - 478
FLD - 887
BTY - 662

LSD 11-18-67-10 W5M

WASTE PROCESSING & DISPOSAL FACILITIES

NON APPROVED

(READY FOR APPROVAL)

Anric Reclaimers (1984) Ltd.
Wilf Dietrich
Box 577
Brooks, Alberta
TOJ OJO

OP - FX1
FLD - 092
BTY - 661

Phone: Office 322-7495
Plant 362-4266

LSD SE1/4-25-18-14 W4M

Area One Reclaiming Ltd.
Doug Eckert
P. O. Box 712
Redwater, Alberta
TOA 2W0

OP - D89
FLD - 770
BTY - 655

Phone: 998-2688

LSD SE1/4-35-56-21 W4M

Medicine River Oil Recyclers
Fred Elgert
Box 76
Eckville, Alberta
TOM OX0

OP - 626
FLD - 604
BTY - 652

Phone: 746-3130

LSD 1-29-39-3 W5M

Northern Oil Separators Ltd.
Bob Barker
Box 1478
Drayton Valley, Alberta
TOE OMO

OP - FG5
FLD - 997
BTY - 659

Phone: 542-4733

LSD SW-18-116-5 W6M

Pentastar Oil Recyclers & Rentals Ltd.
Neil Brown
General Delivery
Stauffer, Alberta
TOM 1W0

OP - FJ9
FLD - 405
BTY - 660

Phone: 746-2266

LSD 11-7-37-5 W5M

WASTE PROCESSING & DISPOSAL FACILITIES

NON APPROVED

(READY FOR APPROVAL)

Seller Resources Limited
Gordon Sellers
Box 434
Devon, Alberta
TOC 1EO

Phone: 987-3747

OP - R11
FLD - 551
BTY - 651

LSD 14-28-49-26 W4M

South Edmonton Oil Processors
Bill Graham
6 Athabasca Avenue
Devon, Alberta
TOC 1EO

Phone: 941-2320

LSD 6-11-50-22 W4M

WASTE PROCESSING AND DISPOSAL FACILITIES

NON APPROVED

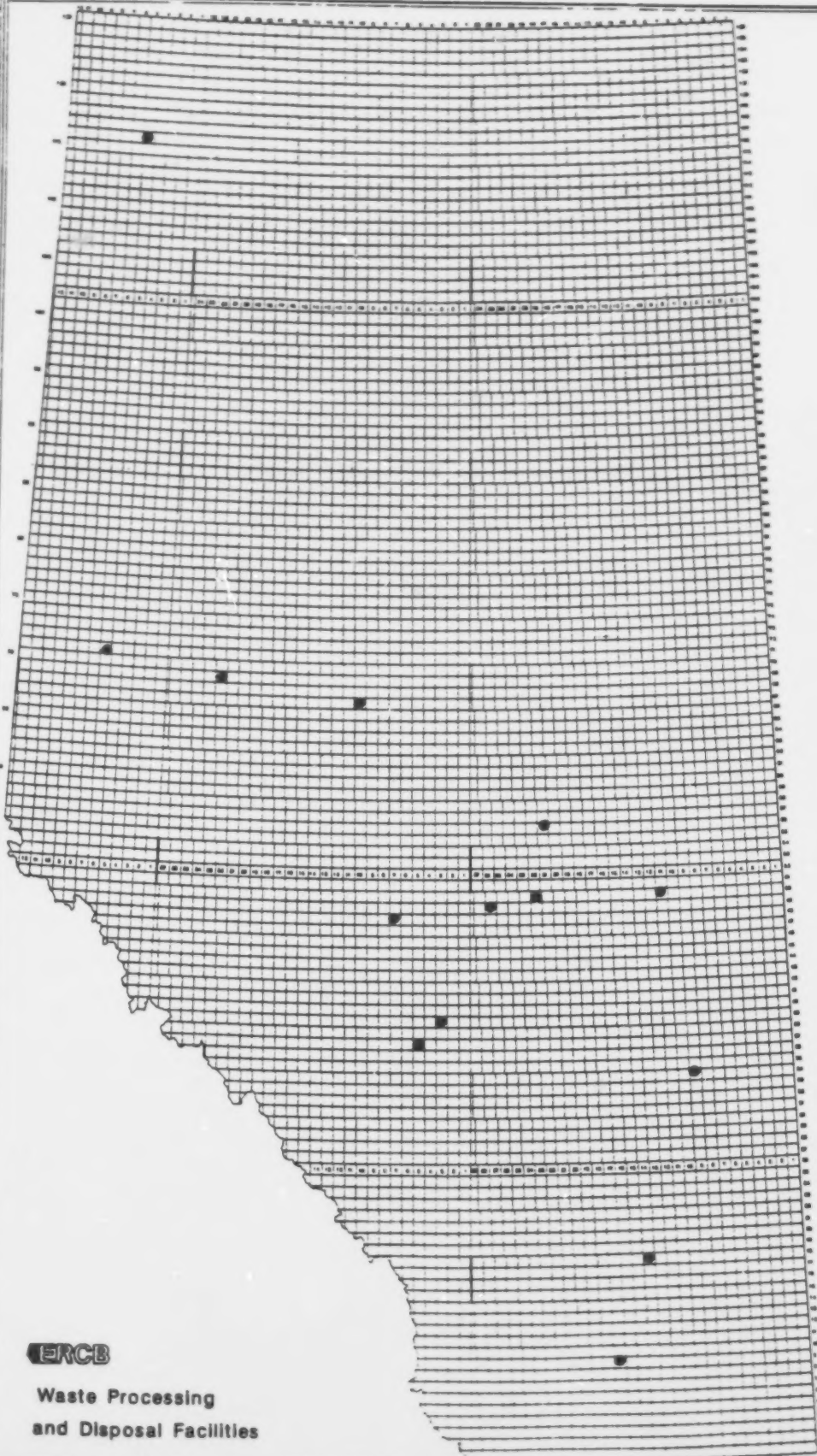
Lador Oil Reclaimers
Larry Saika
P. O. Box 23
Innisfree, Alberta
TOB 2G2

Phone: 592-2418

LSD 9-30-50-11 W4M

Valleyview Oil Cleaning and Salvage
L. Hoedl, G. Stewart
Box 563
VALLEYVIEW, Alberta
TOH 3N0

LSD 13-10-69-22 W5M

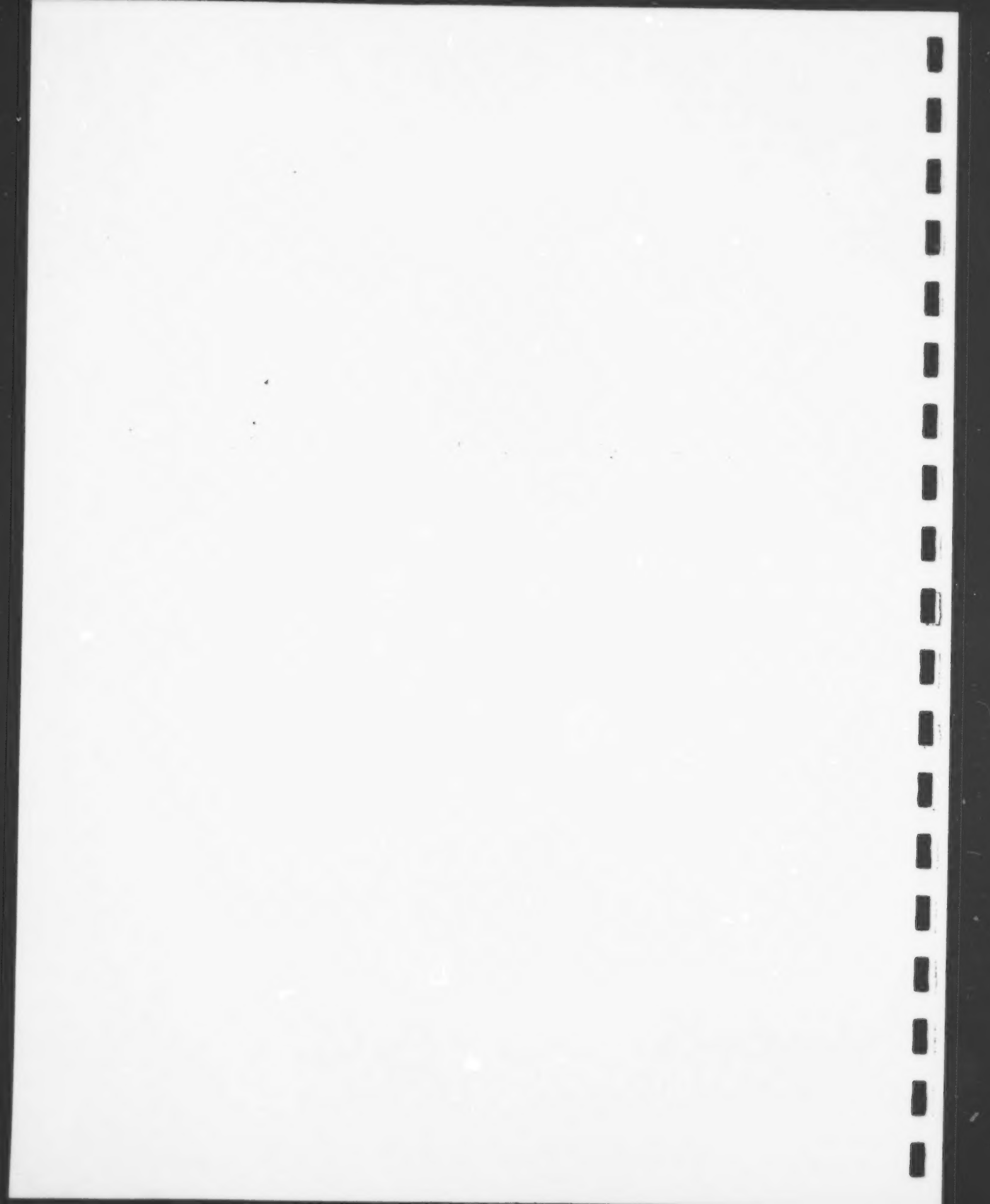


ERC

Waste Processing
and Disposal Facilities

THE ALBERTA WASTE MATERIALS EXCHANGE

AWME



THE ALBERTA WASTE MATERIALS EXCHANGE (AWME)

The Alberta Waste Materials Exchange (AWME) was established in 1984 as a project of the Alberta Research Council with funding from Alberta Environment. It operates in conjunction with the Canadian Waste Materials Exchange (CWME) as an information clearinghouse designed to put potential users of waste material in contact with waste producers. A company having material that is unusable at their facility but which still has potential value may list the material with the exchange. Information submitted is published in a bi-monthly bulletin without charge and mailed to other industries that may be able to recycle or reuse the available materials.

Listings are divided into three main categories. These are wastes available; wastes wanted; and services available where companies specializing in waste management, reprocessing or transportation of waste materials can describe the services they offer.

Wastes available and wanted are classified into ten categories. These are:

1. organic chemicals and solvents
2. oils, fats and waxes
3. acids
4. alkalis
5. other inorganic chemicals
6. metals and metal containing sludges
7. plastics
8. textiles, leather & rubber
9. wood and paper products
10. miscellaneous materials

Within these categories, each listing is identified by a code number to provide confidentiality for the company involved.

Whenever a participant identifies a material listed in the bulletin that may be of use to him (waste available) or has a material that is being requested for procurement (waste wanted), he completes a form provided in the bulletin and mails it to the exchange. Enquiries are promptly forwarded to the company that placed the listing. The originator of the listing in turn contacts the enquirer directly. The exchange does not become involved in negotiations or the actual transfer of wastes.

Listings are accepted by the exchange on a Listing Form provided in the bulletin. All listings are free of charge and are carried indefinitely or until the listing company requests that the item be removed or indicates that the material is no longer available for exchange.

For Further Information:

Please contact Karen D. Beliveau, Manager, Alberta Waste Materials Exchange, 250 Karl Clark Road, P. O. Box 8330, Postal Station "F", Edmonton, Alberta, T6H 5X2. Telephone (403) 450-5461.



**ALBERTA SPECIAL WASTE
MANAGEMENT SYSTEM**

Chem-Security (Alberta) Ltd.



Chem-Security Ltd.

Subsidiary of
Bow Valley Resource Services Ltd.

1323 - 44th Avenue N.E., Calgary, Alberta, Canada T2E 6L5
Telephone (403) 250-3742 • Telex 03-827569

ALBERTA SPECIAL WASTE MANAGEMENT SYSTEM

SYNOPSIS

Contact: Calgary 250-3742
 Edmonton 955-9462
 Toll-Free (Alberta) 1-800-642-3830

Waste Profile:

- Identifies Waste, Packaging, Volume, and Hazards
- Sample Generally Required
- Analysis Generally Not Required
- One Per Waste Type Not Each Shipment

Contract:

- Transfers title and liability of properly identified and properly packaged waste to Chem-Security Ltd.

Transportation

- Transportation cost included in price for disposal.
- Bulk and drum modes of transport used.
- Special containers used for drums.

Treatment

- State-of-the-art treatment at Alberta Special Waste Treatment Centre near Swan Hills, Alberta.

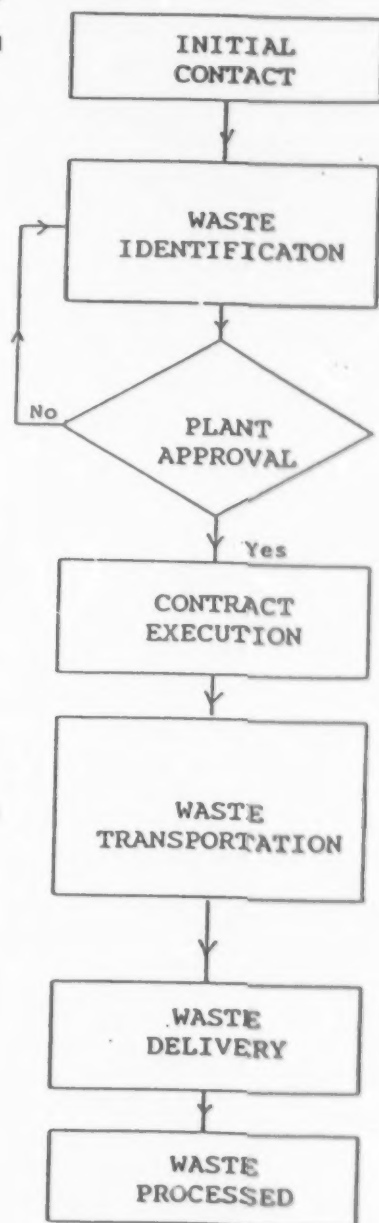
DISPOSAL INFORMATION

CUSTOMER ACTIVITIES

- identify waste type and amount
- completion WPS* and takes representative sample
- submits WPS and sample to plant
- contract is reviewed signed
- label waste and ensure packaging is appropriate
- obtain Gov't manifest

CHEM-SECURITY ACTIVITIES

- provide quote and outline procedures
- provide WPS and outline sample requirements
- notify plant sample is coming
- waste is confirmed as material outlined on WPS
- treatment methodology is determined
- contract is sent to customer specifying price and conditions
- request for transportation is submitted
- transportation is scheduled
- customer notified
- wastes are inspected and picked up
- customer is billed



* WPS = Waste Profile Sheet

The following was compiled to provide special waste generators with an overview of how the system works and identify requirements for the disposal of special wastes. Clarification and further information is available from your Chem-Security Ltd. representative.

I INITIAL CONTACT

Customer contacts Chem-Security Ltd. regarding the disposal of a waste, from information supplied by the customer (ie. physical, chemical and quantitative), a quote is usually given as well customer information and documentation are provided.

Validity of Quotation

All quotations are valid for 90 days from date of issue unless otherwise specified in writing. Quotations are based on customer related information and any inconsistencies (amount, type of waste) may result in price adjustments.

Pricing Data

- i) Costs for transportation and disposal are based on the physical and chemical characteristics of the waste material. Some of the specific categories which have pricing impacts are:

- Halogen content
- Heat of combustion
- Solids concentration (in liquids or sludges)
- Liquids concentration (in solids or sludges)
- ph Value
- Reactivity
- Corrosiveness
- Concentration of: Mercury, Arsenic, Cyanide,
Sulphides, HF

The total quantity of special waste material is based on information provided by the customer. Actual quantities of waste materials will be recorded when such materials are received at the Swan Hills Special Waste Treatment Facility. This record is considered to be the actual quantity for invoicing purposes.

Unless specified otherwise, all quotes include transportation of the waste from the Customer's site or from a transfer station to the Swan Hills Facility.

II WASTE IDENTIFICATION

Chem-Security Ltd. will provide all forms required for waste approval. The manifest for shipping is available from the Waste Management Branch of Alberta Environment at 427-5868.

Generators Waste Material Profile Sheet (WPS)

This form is serially numbered to correspond to the WPS and all relevant correspondence should quote this number.

This form must be completed in full and signed by the customer and returned to Chem-Security Ltd. If a category quantity is zero, label it "0". Incomplete forms will be returned to the customer for completion.

Certification of Representative Sample (CRS)

This form is serially numbered to correspond to the WPS and all relevant correspondence should quote this number.

This form must be completed in full except for the information regarding the adequacy of sampling method which appears in a box in the lower right hand corner.

A label must appear on the sample container with information duplicate to that required on this form.

Representative Sample

In most cases the customer must provide to Chem-Security Ltd. a representative sample of each waste stream requiring disposal, 500ml for liquid wastes and 1 to 2 kilograms for solid wastes.

Sampling methods must be such that the sample provided is truly representative of the waste stream components.

The sample container must be labelled as specified on the Certificate of Representative Sample form.

Sample containers should be suitable to contain the waste.

Submission of Information

The WPS, CRS and a representative sample should be submitted to:

Chem-Security Ltd.
Plant Site
SWAN HILLS, Alberta
TOG 2C0

A copy of the WPS should also be submitted to your CSL representative to insure the paperwork is efficiently moved through the system.

III PLANT APPROVAL

The representative sample provided by the customer will be analyzed and compared to the WPS provided. If the information is similar, a treatment methodology is determined. Inconsistencies or insufficient information will result in a request for more information from the customer. Plant Approval takes from 1 to 6 weeks depending on waste type.

IV CONTRACT EXECUTION

After your CSL representative has been notified that the waste has been approved by the plant, he will provide you with two (2) copies of the Transportation and Disposal Contract.

The contract document will set out in specific detail the terms and conditions of the offer for services.

This document must be signed by the customer and received by Chem-Security Ltd. before transportation and disposal services can be confirmed.

Once signed, the contract is valid for disposal of subsequent special wastes. Other WPS can be added by a letter of agreement.

V WASTE TRANSPORTATION

After a contract is in place, your CSL representative submits a request for transportation to the CSL transportation section.

Wastes must be packaged to conform to all applicable provincial and federal regulations as well as CSL's requirements ie., liquid wastes must either be in bung type drums or in overpacked open head type drums.

All drums, containers, packages and other items must be properly labelled prior to loading. Your CSL representative can provide you with information on label requirements.

Chem-Security Ltd. will provide shipping containers suitable for transporting 45 gallon drums in accordance with the Transportation of Dangerous Goods Regulations. Trucks dispatched with containers will be equipped with hoisting equipment suitable for loading drums into these containers. The cost for loading drums is included in the cost for transportation and disposal provided that this activity is not curtailed by circumstances within the control of the customer and the drums are intact, sealed, and in good condition.

Requirements for loading equipment other than those specified above, ie., crane, pumps, etc., will be at the customers' expense unless otherwise specifically agreed to in the quotation.

A Chem-Security Ltd. representative will inspect all materials and packaging prior to loading and at his/her discretion can refuse to load any materials and/or containers which are not properly labeled or packaged or if the integrity of the container is in question or the materials or packaging appears to be other than that represented in the representative sample or on the WPS.

A chemical transportation manifest must be completed before transportation begins.

After all previous requirements have been satisfied, Chem-Security Ltd., in conjunction with the customer will agree on a specific schedule for transportation.

VI WASTE DELIVERY

Wastes are transported to Swan Hills. Upon receipt of special waste shipments at the Swan Hills Facility, a sample will be taken and a "finger print" analysis done to verify that the materials received represent the materials described in the WPS. Inconsistencies may result in the shipment being returned to the customer or being held until discrepancies can be rectified. If no inconsistencies exist, the customer is billed with proof of waste delivery being a completed manifest.

VII WASTE PROCESSED

Wastes are processed at the Alberta Special Waste Treatment Centre at Swan Hills, Alberta. Organic wastes are destroyed by incineration, whereas inorganic wastes are processed in the physical/chemical treatment plant or stabilized and landfilled in the secure landfill. The plant is comprehensive and if a waste requires more than one type of treatment it is available.

APPENDIX I

HAZARDOUS CHEMICALS ACT





GOVERNMENT OF THE PROVINCE OF ALBERTA

HAZARDOUS CHEMICALS ACT

Revised Statutes of Alberta 1980, Chapter H-3
with amendments in force as of March 14, 1985

NOTE: This consolidation contains some provisions that
await Proclamation as of the consolidation date.

Consolidated May 2, 1985

OFFICE CONSOLIDATION

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Note - Sections 7.2 and 7.3 have
been proclaimed since publication
of the Hazardous Chemicals Act.

NOTE

All persons making use of this consolidation are reminded that it has no legislative sanction, that the amendments have been embodied for convenience of reference only, and that the original Acts should be consulted for all purposes of interpreting and applying the law.

UNPROCLAIMED AMENDMENTS

As of the consolidation date shown on the cover, sections 7.2, 7.3 and 16(1)(a), enacted by SA 1982 c20, and section 7.4(1)(c) and (e), enacted by SA 1984 c50, await Proclamation. These unproclaimed provisions are included in this consolidation, printed in italics.

REGULATIONS

The following is a list of the regulations made under the *Hazardous Chemicals Act* that are filed as Alberta Regulations under the *Regulations Act* as of the consolidation date shown on the cover:

Hazardous Chemicals Act	49/85
Hazardous Waste	

HAZARDOUS CHEMICALS ACT CHAPTER H-3

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HER MAJESTY, by and with the advice and consent of the Legislative Assembly of Alberta, enacts as follows:

1 In this Act,

Definitions

(a) "animal"

- (i) means any animal other than man, and
 - (ii) includes mammals, birds, fish, amphibians, reptiles, invertebrates, insects and animals similar to insects, wild or domestic, living or dead,
- (b) "class of substance" means any 2 or more substances that
- (i) contain the same chemical moiety, or
 - (ii) have similar chemical properties and the same type of chemical structure;
- (c) "Committee" means the Hazardous Chemicals Advisory Committee;
- (c.1) "contractor", in relation to the Corporation, means a person with whom the Corporation has entered into an agreement pur-

suant to section 15 of the *Special Waste Management Corporation Act*;

(c.2) "Corporation" means the Alberta Special Waste Management Corporation;

(d) "Department" means the Department of the Environment;

(e) "Director" means the Director of Pollution Control;

(e.1) "environment" means all or any part or combination of the air, land and water of Alberta;

(f) "hazardous chemical" means any substance, class of substance or mixture of substances that is entering or is capable of entering the environment in a quantity or concentration or under conditions that may constitute a danger to

(i) the environment;

(ii) plant or animal life, or

(iii) human health;

(g) "hazardous waste" means a hazardous chemical disposed of or to be disposed of as waste;

(g.01) "hazardous waste management facility" means a facility for the reception, collection, movement, examination, storage, treatment or disposal of hazardous waste;

(g.1) "manifest" means the document designed to identify the quantity, composition, origin and destination of hazardous waste during transportation and the persons consigning, transporting and accepting that waste;

(h) "Minister" means the Minister of the Environment;

(i) repealed 1982 c20 s2;

(j) "person responsible", when used with reference to a hazardous chemical or a substance or thing containing a hazardous chemical, means

(i) its owner,

(ii) the person having the charge, management or control of it, and

(iii) the person having the charge, management or control of the handling, storage, use, disposal, transportation, or display of it;

(k) "Schedule" means the schedule of hazardous chemicals established pursuant to section 16(1)(f);

(l) "substance" means any distinguishable kind of inanimate matter

(i) capable of becoming dispersed in the environment, or

(ii) capable of becoming transformed in the environment into matter described in subclause (i);

(m) "treatment", with reference to hazardous waste, means any operation for the treatment, recycling or salvaging of the hazardous waste so that it no longer constitutes a danger to the environment, plant or animal life or human health.

RSA 1980 cH-3 s1; 1982 c20 s2; 1984 c30 s1

2 The Crown is bound by this Act.

Act binds Crown

1978 c18 s2

Appointment of employees to enforce Act

3(1) The Minister may in writing appoint an employee of the Government or of a government agency to carry out all or any of the provisions of this Act and the regulations in the whole or any part of Alberta.

(2) An instrument of appointment under subsection (1) may direct that the authority of the employee be exercised in any manner that the Minister prescribes in the appointment.

RSA 1980 cH-3 s3; 1982 c20 s3

4(1), (2) and (3) Repealed 1982 c20 s4.

(4) The Minister may by order

Powers of the Minister

(a) direct a person responsible for a hazardous chemical listed in the Schedule or specified in the order to furnish all information specified in the order that he has in his possession or may reasonably be expected to have access to relating to that hazardous chemical;

(b) prohibit or restrict, either permanently or for any length of time he considers necessary, the sale, handling, use or distribution of any crop, food, feed, plant, water, produce, or other matter which may have been exposed to a hazardous chemical listed in the Schedule or specified in the order;

(c) cause the crop, food, feed, animal, plant, water, open body of water, produce, product or other matter which may have been exposed to a hazardous chemical listed in the Schedule or specified in the order to be destroyed or to be decontaminated or otherwise rendered harmless.

(5) Any information received pursuant to subsection (4)(a) that relates to a formula or process by which anything is processed or manufactured, whether patented or not, or to trade secrets or that is sales or production information that has been specified in writing as information that is given in confidence, may not be disclosed except as necessary for the purpose of this Act.

(6) No person affected by an order of the Minister under subsection (4)(b) or (c) is entitled to compensation from the Crown for any loss resulting from or attributable to an order made by the Minister under this section.

RSA 1980 cH-3 s4; 1982 c20 s4

5(1) The Minister shall appoint a Hazardous Chemicals Advisory Committee.

(2) A majority of the members of the Committee constitutes a quorum.

(3) The Minister may

- (a) designate one member of the Committee as chairman and one member as secretary, and
- (b) authorize, fix and provide for the payment of remuneration and expenses to the members of the Committee who are not officers or employees of the Crown or of any agency of the Crown.

(4) The Committee shall

- (a) advise the Minister with respect to the content, administration, application and enforcement of this Act and the regulations, and

(b) hear appeals pursuant to section 7.

RSA 1980 ch.3 s5

6(1) When, in the opinion of the Director, the use, handling, storage, sale, manufacture, disposal, display or method of application or of transportation of a hazardous chemical or of a substance or thing containing a hazardous chemical

(a) causes or is likely to cause impairment of the quality of the environment for any use that is being or is likely to be made of it,

(b) causes or is likely to cause injury or damage to property or to plant or animal life,

(c) adversely affects or is likely to adversely affect the health or safety of any person,

(d) impairs or is likely to impair the safety of any person, or

(e) renders or is likely to render, directly or indirectly, any property or plant or animal life unfit for use by man,

the Director may, whether or not the chemical, substance or thing is named in the Schedule, make an order called a "chemical control order" directed to the person responsible for the hazardous chemical or the substance or thing containing the hazardous chemical, and shall serve a copy of the order on the person to whom the order is directed.

(2) The Director, in a chemical control order, may order the person responsible for the hazardous chemical or the substance or thing containing the hazardous chemical to do all or any of the following:

- (a) limit or control the rate of application, deposit, addition, emission or discharge of a hazardous chemical or a substance or thing containing a hazardous chemical into the environment in accordance with the directions set out in the order,

(b) stop the application, deposit, addition, manufacture, emission or discharge of a hazardous chemical or a substance or thing containing a hazardous chemical into the environment,

- (i) permanently,
- (ii) for a specified period of time, or
- (iii) in the circumstances set out in the order,

(c) comply with any directions set out in the order relating to the manner in which a hazardous chemical or a substance or thing containing a hazardous chemical or any container of either of them may be handled, stored, used, disposed of, transported, displayed or manufactured.

(3) The Director, under any of the circumstances set out in subsection (2), may by a further order amend, vary or rescind a chemical control order, and in that case shall serve a copy of the amending, varying or rescinding order on the person to whom the chemical control order was directed.

(4) If the person to whom a chemical control order is directed fails to comply with the order, the Director may take whatever action he considers necessary to effect compliance with the chemical control order and may charge the cost of that action to the person to whom the chemical control order is directed.

(5) The cost incurred under subsection (4) in effecting compliance with a chemical control order

(a) shall be paid on demand by the person to whom the chemical control order was directed, and

(b) is recoverable by the Minister as a debt due to the Crown.

RSA 1980 ch.3 s6; 1982 c20 s5

Appeal

7(1) Any person aggrieved by an order of the Director under section 6 may appeal in accordance with this section.

(2) A person appealing under this section shall, within 60 days of the date of the written notice informing him of the act or refusal in respect of which he is aggrieved, serve a notice of appeal in the prescribed form on the Minister and the chairman of the Committee.

(3) An appeal under this section does not operate as a stay of the order appealed from.

(4) Within 60 days of being served with the notice of appeal the Committee shall hold a hearing into the matters raised by the notice of appeal.

(5) After the hearing the Committee may confirm, vary or reverse the order appealed from and shall notify the appellant accordingly.

RSA 1980 ch.3 s7

7.1(1) Without limiting the application of section 6, where an unlawful or accidental discharge, emission, escape or spill of hazardous chemical occurs at a facility for the storage, treatment or disposal of

hazardous chemical, the person responsible for the hazardous chemical shall, immediately on becoming aware of the occurrence, take all reasonable emergency measures consistent with public safety to repair, remedy and confine the effects of and remove the hazardous chemical in such a manner as to effect maximum protection to human life and health and the environment.

(2) A person who contravenes subsection (1) is guilty of an offence and liable to a fine of not more than \$5000.

(3) Notwithstanding subsections (1) and (2), where a discharge, emission, escape or spill referred to in subsection (1) occurs, the Director may take whatever action he considers necessary to protect human life or health or the environment, and may in writing charge the cost of that action to any one or more of the persons responsible for the hazardous chemical.

(4) The cost incurred under subsection (3)

(a) shall be paid on demand by the person or persons charged under that subsection, and

(b) is recoverable by the Minister as a debt due to the Crown.

1982 c20 s6

7.2 No person shall

(a) generate hazardous waste and permit that waste to leave the premises where it was generated,

(b) collect from the premises referred to in clause (a), or consign or transport, hazardous waste, or

(c) accept for transportation, treatment or disposal, or store or provide storage facilities for, hazardous waste generated by another person,

unless, on application, he or his employer has been allocated a personal identification number by the Director.

1982 c20 s6

(NOTE: Section 7.2 comes into force on Proclamation.)

7.3(1) No person shall consign, transport or accept for transportation, storage, treatment or disposal any hazardous waste unless the waste is accompanied by a manifest which

(a) is duly completed in accordance with the regulations,

(b) accurately identifies the quantity, composition and points of origin and destination of the hazardous waste, and

(c) contains the personal identification number of each person consigning, transporting or accepting the waste.

(2) A person who contravenes subsection (1) is guilty of an offence and liable to a fine of not more than \$10 000.

1982 c20 s6

(NOTE: Section 7.3 comes into force on Proclamation.)

Handling hazardous waste

7.4(1) Subject to the regulations under section 16(1)(l), no person, other than the Corporation, a contractor of the Corporation or a person authorized to do so pursuant to subsection (2), shall

(a) store any hazardous waste,

(b) operate a facility for the collection of any hazardous waste,

(c) transport any hazardous waste for delivery to any place in Alberta except

(i) a Corporation facility as defined in the Special Waste Management Corporation Act, or

(ii) a hazardous waste management facility operated by the holder of an authorization under subsection (2) that permits the holder to receive the hazardous waste,

(d) treat any hazardous waste, or

(e) dispose of any hazardous waste or of any waste matter resulting from the treatment of any hazardous waste.

(NOTE: Clauses (c) and (e) come into force on Proclamation.)

(2) The Corporation may, on any conditions it considers necessary, authorize a person to do any or all of the following:

(a) store a hazardous waste;

(b) operate a facility for the collection of hazardous waste;

(c) transport a hazardous waste;

(d) treat a hazardous waste;

(e) dispose of a hazardous waste or of waste matter resulting from the treatment of a hazardous waste.

(3) A person who contravenes this section is guilty of an offence and liable to a fine of not more than \$100 000 for each day that the offence continues.

(4) If a person has contravened or is contravening this section, the Court of Queen's Bench may, on the application of the Minister by originating notice, make an order

(a) restraining that person from further contravening this section, and

(b) directing that person to take any remedial measures the Court considers appropriate in relation to any hazardous waste in that person's possession or under that person's control.

1982 c20 s6; 1984 c30 s2

Responsibility for acts of employees

8 For the purposes of this Act and the regulations a person is, with respect to any matter under this Act and the regulations, responsible for

(a) the acts or omissions of his employees and agents within the scope of their actual or apparent authority, and

- (b) the use or operation of any aircraft, vehicle, equipment or machinery used for or in connection with any matter under this Act with his knowledge or consent, whether express or implied.

RSA 1980 ch-3 s48

9 A person engaged in the use, transfer, manufacture, production or importation of a hazardous chemical shall maintain all records prescribed by the regulations.

Records

RSA 1980 ch-3 s9

10(1) An employee of the Department authorized by the Minister may, on reasonable notice to the owner or occupant, enter any land or premises for the purpose of

Right of entry

- (a) investigating, inspecting or carrying out tests necessary or desirable under this Act or the regulations,
- (b) examining and making copies of or taking extracts from any records of a person during the course of an investigation, inspection or test under clause (a), or
- (c) carrying out any powers or duties conferred or imposed on the employee by this Act or the regulations.

(2) Notwithstanding subsection (1), when an investigation or inspection is carried out for the purpose of enforcing a chemical control order under this Act, the authorized employee is not required to give any notice before entering any land or premises.

(3) If an employee of the Department authorized by the Minister wishes to enter any land or premises under subsection (1) or (2) and is prevented from so entering, the Minister may apply to the Court of Queen's Bench by way of originating notice for an order permitting the employee to enter the land or premises, or to obtain the records or other information for the purposes specified in the order.

(4) An order made under subsection (3) may be enforced by a peace officer.

(5) Repealed 1982 c20 s7.

RSA 1980 ch-3 s10; 1982 c20 s7

11(1) The owner or person in charge of any land, premises, thing or substance in respect of which an employee of the Department is authorized to enter, investigate, inspect, carry out tests, examine, make copies or take extracts, shall give the employee all reasonable assistance to enable him to carry out his duties and functions under this Act and the regulations and shall furnish him with all information relative to the carrying out of those duties and functions that the employee may reasonably require.

(2) No person shall obstruct or hinder an employee of the Department authorized by the Minister in the carrying out of his duties or functions under this Act or the regulations.

(3) A person who

- (a) by any act or omission interferes with or causes an interference with the entry by an employee authorized by the Minister onto any land or premises under section 10(1) or (2),

Assistance to inspectors

- (b) fails to comply or causes a failure to comply with a direction or with a court order under section 10(3), or
- (c) fails to comply with subsection (1),

is guilty of an offence and liable to a fine of not more than \$1000 for each day that the offence continues.

RSA 1980 ch-3 s11; 1982 c20 s48

Search warrants

12(1) When it appears to a provincial judge, on information laid before him on oath, that there are reasonable and probable grounds for believing that a private dwelling house contains

- (a) any crop, food, feed, animal, plant, water, produce, product or other matter that is contaminated by a hazardous chemical,

or

- (b) any record, document, vehicle, equipment or other thing that affords evidence of a contravention of this Act,

the judge may issue a warrant authorizing a peace officer, with or without an employee of the Department authorized by the Minister, to enter the private dwelling house by force if necessary for the purpose of searching therefor.

(2) Before entering a private dwelling house pursuant to this section, a peace officer shall take reasonable steps to find the owner or person in charge of it and shall endeavour to obtain the co-operation of that person.

(3) In entering or searching a private dwelling house a peace officer shall use no more force than is reasonably required under the circumstances.

(4) If anything referred to in subsection (1) is found pursuant to the execution of a warrant issued under this section, it may be dealt with by an authorized employee in the same manner as a like item found at any other place may be dealt with under this Act.

RSA 1980 ch-3 s12; 1982 c20 s9

Documentary evidence

13 In a prosecution, proceeding or hearing under this Act or the regulations, the production of

- (a) a certificate or report of an analyst designated by the Minister as to the analysis, ingredients, quality, quantity or temperature of any material, whether solid, liquid or gas or any combination of them, or

- (b) a notice, licence, permit, order, certificate, consent or approval purporting to be signed by the Minister or any person authorized by the Minister under this Act or the regulations, or a certified copy of them,

shall be admitted in evidence as prima facie proof of the facts stated in them without proof of the signature or official character of the person signing the document.

RSA 1980 ch-3 s13

13.1 The Minister may enter into agreements with the Governments of Canada and of other provinces respecting the implementation of the manifest system.

1982 c20 s10

14 A person who contravenes this Act or a regulation or order under this Act for which no specific penalty is provided is guilty of an offence and liable to a fine of not more than \$1000 or to imprisonment for a term not exceeding 90 days, or to both fine and imprisonment.

RSA 1980 cH-3 s14; 1982 c20 s11

15 A prosecution under this Act or the regulations may be commenced within 2 years of the commission of the alleged offence, but not afterward.

RSA 1980 cH-3 s15

16(1) The Lieutenant Governor in Council may make regulations

(a) prescribing the maximum quantity or concentration of a substance specified in the Schedule or forming part of a class of substances specified in the Schedule that may be released into the environment in the course of any commercial, manufacturing or processing activity;

(b) prescribing the conditions under which a substance specified in the Schedule or forming part of a class of substances specified in the Schedule may not be released into the environment in the course of any commercial, manufacturing or processing activity;

(c) limiting, restricting or prohibiting the sale, use, manufacture, production or importation of any hazardous chemical specified in the Schedule;

(d) specifying the records to be maintained by any person engaged in the use, transfer, manufacture, production or importation of a hazardous chemical;

(e) respecting the procedure to be followed by any committee appointed under this Act;

(f) establishing a Schedule of hazardous chemicals and classifying those hazardous chemicals into such classes and sub-classes as he thinks fit;

(g) governing the completion, retention, use, disposition and filing of manifests and copies of manifests and prescribing the form of the manifest;

(NOTE: Clause (g) comes into force on Proclamation.)

(h) governing the storage or disposal of hazardous chemicals;

(i) exempting a hazardous chemical or type of hazardous chemical from all or any of the provisions of this Act or the regulations and specifying the conditions for the exemption;

(j) respecting the storage, collection, transportation and treatment of hazardous wastes and the disposal of hazardous waste and waste matter resulting from the treatment of hazardous wastes;

(k) without restricting the generality of clause (j), respecting bonding requirements;

(l) respecting the circumstances under which and the conditions on which any of the provisions of section 7.4(1) do not apply to a person who

(i) treats or stores a hazardous waste, or

(ii) disposes of a hazardous waste or of waste matter resulting from the treatment of a hazardous waste,

on premises occupied by that person.

(2) Regulations under subsection (1)(d) or (h) may be made to apply to hazardous chemicals in general or to particular hazardous chemicals or types of hazardous chemical only.

RSA 1980 cH-3 s16; 1982 c20 s12; 1984 c50 s2

APPENDIX II

HAZARDOUS WASTE REGULATION

APPENDIX

Hazardous Chemicals Act

HAZARDOUS WASTE REGULATION

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Schedule

Definitions

1 In this Regulation,

- (a) "Act" means the *Hazardous Chemicals Act*;
- (b) "carrier" means a person accepting for transportation or transporting hazardous waste for storage, treatment or disposal;
- (c) "container" means any portable device less than 454 litres in size in which hazardous waste is stored;
- (d) "empty container" means a container that contains less than 2.5 centimetres of residue remaining at the bottom of the container or less than 3% of the original contents, whichever is the lesser amount;
- (e) "generator" means a person consigning hazardous waste for storage, transportation, treatment, or disposal;
- (f) "storage" means the holding of hazardous waste for a temporary period at the end of which the hazardous waste is

- (i) transported;
 - (ii) treated;
 - (iii) disposed of;
- (g) "receiver" means a person receiving hazardous waste for storage, treatment or disposal;
- (h) "unrinsed empty container" means an empty container
- (i) that has not been rinsed 3 times using for each rinse a clean solvent that is in an amount equal to 10% of the container volume and that is capable of removing the contained hazardous waste, or
 - (ii) that, in the opinion of the Director of Standards and Approvals of the Department, has not been rinsed by a method that produces results equal to or better than those produced by the method set out in subclause (i).

Exemption

2 The following hazardous chemicals are exempt from the Act and this Regulation if they are disposed of as waste:

- (a) those wastes that are not listed in Table 1 of the Schedule or defined by the criteria specified in Table 1;
- (b) household wastes;
- (c) agricultural wastes generated by
 - (i) the growing and harvesting of agricultural crops, or
 - (ii) the raising of animals, including animal manures returned to the soil as fertilizers;
- (d) mining overburden returned to a mine site as approved pursuant to the *Land Surface Conservation and Reclamation Act* and the regulations under that Act;
- (e) fly ash waste, bottom ash waste, slag waste or flue gas emission control waste generated from the combustion of domestic waste, coal, or other fossil fuels as approved pursuant to the

Clean Air Act or the *Clean Water Act* and the regulations under those Acts;

(f) drilling fluids, produced waters, oily waste, fracture fluids, reformates, completion fluids, process and run-off waters, spent iron sponge or similar sweeteners and waste treater hays resulting from the exploration, development or production of crude oil or natural gas approved pursuant to the *Oil and Gas Conservation Act* and the regulations under that Act, the *Oil Sands Conservation Act* and regulations under that Act or the *Pipeline Act* and regulations under that Act;

(g) irrigation return flows approved pursuant to the *Water Resources Act* and the regulations under that Act;

(h) domestic sewage;

(i) any materials that are for recycling, re-use or reprocessing in facilities approved pursuant to the *Clean Water Act* or the *Clean Air Act* and the regulations under those Acts;

(j) point source discharges licensed pursuant to the *Clean Water Act* or the *Clean Air Act* and the regulations under those Acts;

(k) agricultural chemicals and their empty containers approved pursuant to the *Agricultural Chemicals Act* and the regulations under that Act;

(l) any hazardous waste, except for those containing chemicals listed in Table 2 of the Schedule, produced by a generator in an amount less than 5 kilograms if a solid, or 5 litres if a liquid, per month.

Exemption

3 Section 7.4(1)(a), (b), (d) and (e) of the Act do not apply to a person who treats, stores or disposes of hazardous waste generated by him on premises occupied by him.

Exemption

4 Sections 7.2, 7.3 and 7.4 of the Act do not apply to a hazardous waste which is transported not more than 1 km on a highway, as defined in the *Highway Traffic Act*, by or for a generator of the hazardous waste between the properties owned or leased by the generator if

(a) the local authority, as defined in the *Transportation of Dangerous Goods Control Act*, is informed of the movement and the nature of the hazardous waste, and

(b) the person in charge of the vehicle transporting the hazardous waste displays on the vehicle a placard that corresponds to the placard set out as Figure 19 in Part II of Schedule V of the *Transportation of Dangerous Goods Regulations* (SOR 85-77) under the *Transportation of Dangerous Goods Act* (Canada).

Manifest form

5 The manifest required by the Act shall be in the form set out in the *Transportation of Dangerous Goods Regulations* (SOR 85-77) under the *Transportation of Dangerous Goods Act* (Canada).

Manifest completion

6 The applicable parts and copies of the manifest must be fully completed by the generator, carrier and receiver of hazardous waste.

Generator's manifest duties

7 A generator shall

- (a) on consigning hazardous waste,
 - (i) certify the consignment on all copies of the manifest, and
 - (ii) have the carrier certify receipt of the waste,
- (b) mail the 1st copy of the manifest to the Director of Pollution Control of the Department within 2 days, excluding Saturdays and holidays, after consigning the hazardous waste,
- (c) retain the 2nd copy for at least 2 years following the consignment, and
- (d) deliver the 3rd, 4th, 5th and 6th copies to the carrier.

Copies accompanying waste

8 The 3rd, 4th, 5th and 6th copies of the manifest must accompany the hazardous waste during transportation.

Carrier's manifest duties

9 The carrier shall

- (a) on accepting hazardous waste for transportation, certify the acceptance on all copies of the manifest,
- (b) return the 1st and 2nd copies to the generator, and
- (c) deliver the 3rd, 4th, 5th and 6th copies to the receiver.

Receiver's manifest duties

10 The receiver shall

- (a) on accepting hazardous waste for storage, treatment or disposal,
 - (i) certify the receipt on the 3rd, 4th, 5th and 6th copies of the manifest, and
 - (ii) return the 4th copy to the carrier,
- (b) mail the 3rd copy to the Director of Pollution Control of the Department within 2 days, excluding Saturdays and holidays, after receiving the waste.
- (c) retain the 5th copy for at least 2 years after receiving the waste, and
- (d) mail the 6th copy to the generator within 2 days, excluding Saturdays and holidays, after receiving the waste.

Retained copy

- 11 The generator shall retain the 6th copy for at least 2 years following its receipt from the receiver.

Multiple carriers' manifest

- 12(1) If multiple carriers are used for 1 consignment of hazardous waste,

- (a) the generator shall fill out 1 manifest form with respect to each carrier,

(b) each carrier, on acceptance of the waste for transport, shall

(i) certify the receipt of the waste on 1 form and return copies 1 and 2 of that form to the generator, and

(ii) deliver the remaining manifest copies or remaining manifest forms or both to the receiver or next carrier,

and

(c) the receiver shall, on receiving the hazardous waste,

(i) certify the receipt of the waste on the 3rd, 4th, 5th and 6th copies of all manifest forms,

(ii) cross-reference all of the manifest,

(iii) mail the 3rd copy of each manifest form to the Director of Pollution Control of the Department within 2 days, excluding Saturdays and holidays, after receiving the waste,

(iv) mail the 4th copy of the appropriate manifest to each carrier,

(v) retain the 5th copy of each manifest for at least 2 years after receiving the waste, and

(vi) mail the 6th copy to the generator within 2 days, excluding Saturdays and holidays, after receiving the waste.

(2) A generator shall retain a copy for at least 2 years following its receipt from a receiver under subsection (1)(c).

Storage facility

13 A person who stores hazardous waste shall, in a manner satisfactory to the Director of Standards and Approvals of the Department, store it so that

(a) any leakage is contained and prevented from entering into the remainder of the storage site and places beyond, including sewers and the ground underneath the site,

(b) the hazardous waste is adequately labelled, stating the identity of the contained waste, and

(c) the place where the hazardous waste is stored

(i) is secured from public entry,

(ii) is prominently identified as a hazardous waste storage site,

(iii) is equipped with suitable equipment to handle emergency situations, and

(iv) is provided with operators trained to respond to emergency situations specific to the substances stored.

Storage

14(1) No person shall store a hazardous waste that he did not produce unless he is a holder of a licence to operate issued under the *Clean Water Act* by the Director of Standards and Approvals of the Department.

(2) No person shall store hazardous waste

(a) for a period exceeding 365 days, or

(b) in an amount exceeding 10 tonnes.

(3) Notwithstanding subsection (2), a hazardous waste may be stored for a period exceeding 365 days or in an amount exceeding 10 tonnes if the person who stores the hazardous waste is a holder of a licence to operate issued under the *Clean Water Act* by the Director of Standards and Approvals of the Department.

Bond

15 A person who operates a hazardous waste management facility shall provide to the Minister, if the Minister so requires, a bond in a form and in an amount that the Minister considers appropriate, and with an obligor and obligee acceptable to the Minister, to secure the performance of that person's obligations under the Act, the regulations, any agreement entered into with the Corporation and any conditions imposed by the Corporation respecting the storage, collection, transportation and treatment of hazardous wastes and the disposal of hazardous waste and waste matter resulting from the treatment of hazardous waste.

Unauthorized release report

16 Where an unlawful or accidental discharge, emission, escape or spill of hazardous waste occurs at a facility for the storage, treatment or disposal of hazardous waste, the person responsible for the hazardous waste shall, immediately on becoming aware of the occurrence, notify the Director of Pollution Control of the Department.

Landfill disposal

17(1) Hazardous waste, except for those listed in subsection (3), may be disposed of in landfills which are approved for that purpose by the Director of Standards and Approvals of the Department.

(2) The Director of Standards and Approvals of the Department may approve the disposal of liquid hazardous waste in a landfill that is provided with

- (a) 2 liners of which at least 1 is a synthetic liner,
- (b) a leachate collection and removal system,
- (c) a leak detection system between the 2 liners, and
- (d) a ground water monitoring system.

(3) Hazardous wastes that may not be disposed of into a landfill are

(a) liquid and solid hazardous wastes containing tri-, tetra-, and pentachlorophenol in a concentration greater than 1000 milligrams per kilogram;

(b) liquid or solid hazardous wastes containing any 1 or more of the following organic solvents in a concentration greater than 1000 milligrams per kilogram:

- | | |
|---------------------------|-------------------------------|
| (i) acetone; | (xiii) methanol; |
| (ii) benzene; | (xiv) methylene chloride; |
| (iii) n-butyl alcohol; | (xv) methyl ethyl ketone; |
| (iv) carbon disulfide; | (xvi) methyl isobutyl ketone; |
| (v) carbon tetrachloride; | |

- | | |
|----------------------------------|---|
| (vi) chlorobenzene; | (xvii) nitrobenzene; |
| (vii) cresols and cresylic acid; | (xviii) 2-nitropropane; |
| (viii) cyclohexanone; | (xix) pyridine; |
| (ix) ethyl acetate; | (xx) tetrachloroethylene; |
| (x) ethyl benzene; | (xxi) toluene; |
| (xi) ethyl ether; | (xxii) 1,1,1 and 1,1,2-trichloroethane; |
| (xii) isobutanol; | (xxiii) trichloroethylene; |
| | (xxiv) xylene; |

(c) liquid hazardous wastes containing free cyanides in excess of 1000 milligrams per kilogram;

(d) liquid hazardous waste or earthen materials including, gravel, sand, clay and soil, that contain more than 50 parts per million by weight of polychlorinated biphenyls;

(e) wastes with a pH less than 2.0;

(f) liquid wastes containing the following contaminants in an amount equal to or greater than that shown:

- | | |
|-----------------------|------------------------------|
| (i) arsenic | 500 milligrams per kilogram; |
| (ii) cadmium | 100 milligrams per kilogram; |
| (iii) chromium (Cr+6) | 500 milligrams per kilogram; |
| (iv) lead | 500 milligrams per kilogram; |
| (v) mercury | 100 milligrams per kilogram; |
| (vi) nickel | 134 milligrams per kilogram; |
| (vii) selenium | 100 milligrams per kilogram; |
| (viii) thallium | 130 milligrams per kilogram. |

Repeal

18 *The Hazardous Waste Regulation (Alta. Reg. 49/85) is repealed.*

Coming into force

19 *This Regulation comes into force on April 1, 1988.*

SCHEDULE

TABLE 1

1 Hazardous waste listed in this Table consists of:

(a) the goods, substances, and waste streams listed in List II of Schedule II in the English version of the *Transportation of Dangerous Goods Regulations* (SOR 85-77) under the *Transportation of Dangerous Goods Act* (Canada), except for those goods or substances which have the numeral "37" appearing in Column IV of that list;

(b) any container, other than an empty container, that is larger than 5 litres in capacity, and that was used to hold any goods, substances or waste streams referred to in clause (a), except for those products or substances listed in Table 2;

(c) any unrinsed empty container larger than 5 litres in capacity that was used to hold any product or substance listed in Table 2.

2 Hazardous wastes defined by criteria in this Table are the following:

(a) any mixture or solution described by Classes 2 to 9 of section 3 in the English version of the *Transportation of Dangerous Goods Regulation* (SOR 85-77) made under the *Transportation of Dangerous Goods Act* (Canada), or

(b) any mixture or solution which contains 0.01 percent by mass or greater of any of the substances listed in section 1(a) with the numerals "9.2" appearing in Column III of that list.

TABLE 2

CHEMICALS THAT MAKE UNRINSED EMPTY CONTAINERS
HAZARDOUS WASTE

Substance	Substance
Acetaldehyde, chloro-	Diethyl-p-nitrophenyl phosphate
Acetamide, N-(aminothioxomethyl)-	0,0-Diethyl 0-pyrazinyl phosphoro-
Acetamide 2-fluoro-	thioate
Acetic acid, fluoro-, sodium salt	Diisopropyl fluorophosphate
Acetimidic acid, N-[(methylcar-	Dimethoate
bamoyl)oxy]thio-, methyl ester	3,3-Dimethyl-1-(methylthio)-2-
3-(alpha-Acetylbenzyl)-4-hydro-	butanone, O-[(methylamino)car-
xycoumarin and salts, when	bonyl] oxime
present at concentrations	0,0-Dimethyl 0-p-nitrophenyl
greater than 0.3%	phosphorothioate
1-Acetyl-2-thiourea	Dimethylnitrosamine
Acrolein	alpha, alpha-Dimethylphenethylamine
Aldicarb	4,6-Dinitro-o-cresol and salts
Aldrin	4,6-Dinitro-o-cyclohexylphenol
Allyl alcohol	2,4-Dinitrophenol
Aluminum phosphide	Dinoseb
5-(Aminomethyl)-3-isoxazolol	Diphosphoramidate, octamethyl-
4-aAminopyridine	Disulfoton
Ammonium picrate	2,4-Dithioburet
Ammonium vanadate	Dithiopyrophosphoric acid, tetraethyl
Arsenic acid	ester
Arsenic (III) oxide	Endosulfan
Arsenic (V) oxide	Endothall
Arsenic pentoxide	Endrin
Arsenic trioxide	Epinephrine
Arsine, diethyl-	Ethanamine, 1,1-dimethyl-2-phenyl-
Aziridine	Ethenamine, N-methyl-N-nitroso-
Barium cyanide	Ethyl cyanide
Benzenamine, 4-chloro-	Ethylenimine
Benzenamine, 4-nitro-	Famphur
Benzene, (Chloromethyl)-	Fluorine
1,2-Benzenediol, 4-[1-hydroxy-2-	Fluoroacetamide
(methylamino)ethyl]-	Fluoroacetic acid, sodium salt
Benzenethiol	Fulminic acid, mercury (II) salt
Benzyl chloride	Heptachlor
Beryllium dust	1,2,3,4,10,10-Hexachloro-6,7-epoxy-
Bis(chloromethyl) ether	1,4,4a,5,6,7,8,8a-octahydro-endo,
Bromoacetone	endo- 1,4:5,8-dimethanonaphthalene
Brucine	1,2,3,4,10,10-Hexachloro-6,7-epoxy-
Calcium cyanide	1,4,4a,5,6,7,8,8a-octahydro-endo,
Camphene, octachloro-	exo- 1,4:5,8-dimethanonaphthalene
Carbamimidoseleonic acid	1,2,3,4,10,10-Hexachloro- 1,4,4a,5,
Carbon bisulfide	8,8a-hexahydro- 1,4:5,8-endo,
Carbon disulfide	endo-dimethanonaphthalene
Carbonyl chloride	1,2,3,4,10,10-Hexachloro- 1,4,4a,5,8,
Chlorine cyanide	8a-hexahydro- 1,4:5,8-endo, exo-
Chloroacetaldehyde	dimethanonaphthalene
p-Chloroaniline	Hexachlorohexahydro-exo, exo-dime-
1-(o-Chlorophenyl)thiourea	thanonaphthalene
3-Chloropropionitrile	Hexaethyl tetraphosphate
Copper cyanides	Hydrazinecarbothioamide
Cyanides (soluble cyanide salts),	Hydrazine, methyl-
not elsewhere specified	Hydrocyanic acid
Cyanogen	Hydrogen cyanide
Cyanogen chloride	Hydrogen phosphide
Dichlorophenylarsine	Isocyanic acid, methyl ester
Dieldrin	3(2H)-Isoxazolone, 5-(aminomethyl)-
Diethylarsine	Mercury, (acetato-0)phenyl-
0,0-Diethyl S-[2-(ethylthio)ethyl]	Mercury fulminate
phosphorodithioate	Methane, oxybis(chloro-

TABLE 2 (cont'd)
CHEMICALS THAT MAKE UNRINSED EMPTY CONTAINERS
HAZARDOUS WASTE

Substance	Substance
Methane, tetranitro-	Phosphorothioic acid, O,O-dimethyl-
Methanethiol, trichloro-	O-[p-((dimethylamino-sulfonyl)
4,7-Methano-1H-indene, 1,4,5,6,7,	phenyl] ester
8,8-heptachloro-3a,4,7,7a-tetra-	Plumbane, tetraethyl-
hydro-	Potassium cyanide
Methomyl	Potassium silver cyanide
2-Methylaziridine	Propanal, 2-methyl-2-(methylthio)-,
Methyl hydrazine	O[(methylamino)Carbonyl]oxime
Methyl isocyanate	Propanenitrile
2-Methylactonitrile	Propanenitrile, 3-chloro-
Methyl parathion	Propanenitrile, 2-hydroxy-2-methyl-
alpha-Naphthylthiourea	1,2,3-Propanetriol, trinitrate-
Nickel carbonyl	2-Propanone, 1-bromo-
Nickel cyanide	Propargyl alcohol
Nickel (II) cyanide	2-Propenal
Nickel tetracarbonyl	2-Propen-1-ol
Nicotine and salts	1,2 Propylenimine
Nitric Oxide	2-Propyn-1-ol
p-Nitroaniline	4-Pyridinamine
Nitrogen dioxide	Pyridine, (5)--3-(1-methyl-2-Pyrro-
Nitrogen (II) oxide	lidinyl)-, and salts
Nitrogen (IV) oxide	Pyrophosphoric acid, tetraethyl ester
Nitroglycerine	Selenourea
N-Nitrosodimethylamine	Silver cyanide
N-Nitrosomethylvinylamine	Sodium azide
5-Norbornene-2,3-dimethanol, 1,4,	Sodium cyanide
5,6,7,7-hexachloro, cyclic sulfite	Strontium sulfide
Octamethylpyrophosphoramide	Strychnidin-10-one, and salts
Osmium oxide	Strychnidin-10-one, 2,3,-dimethoxy-
Osmium tetroxide	Strychnine and salts
7-Oxabicyclo [2.2.1] heptane-2,3-	Sulfuric acid, thallium(I) salt
dicarboxylic acid	Tetraethyldithiopyrophosphate
Parathion	Tetraethyl lead
Phenol, 2-cyclohexyl-4,6-dinitro	Tetraethylpyrophosphate
Phenol, 2,4-dinitro-	Tetranitromethane
Phenol, 2,4-dinitro-6-methyl-	Tetraphosphoric acid, hexaethyl ester
Phenol, 2,4-dinitro-6-(1-methyl-	Thallic oxide
propyl)-	Thallium (III) oxide
Phenol, 2,4,6-trinitro, ammonium	Thallium (I) selenite
salt	Thallium (I) sulfate
Phenyl dichloroarsine	Thiofanox
Phenylmercuric acetate	Thioimidodicarbonic diamide
N-Phenylthiourea	Thiophenol
Phorate	Thiosemicarbazide
Phosgene	Thiourea (2-chlorophenyl)-
Phosphine	Thiourea, 1-naphthalenyl-
Phosphoric acid, diethyl p-nitro-	Thiourea, phenyl-
phenyl ester	Toxaphene
Phosphorodithioic acid, O,O-	Trichloromethanethiol
dimethyl S-[2-(methylamino) 2-	Vanadic acid, ammonium salt
oxoethyl] ester	Vanadium pentoxide
Phosphorofluoric acid, bis(1-methyl-	Vanadium (V) oxide
ethyl)-ester	Warfarin, when present at concentra-
Phosphorothioic acid, O,O-diethyl S-	tions greater than 0.3%
(ethylthio)methyl ester	Zinc cyanide
Phosphorothioic acid, O,O-diethyl O-	Zinc Phosphide, when present at
(p-nitrophenyl) ester	concentrations greater than 10%
Phosphorothioic acid, O,O-diethyl O-	
pyrazinyl ester	

APPENDIX III

FACT SHEETS

Hazardous Wastes Fact Sheet

FACT SHEET #1

ALBERTA'S WASTE MANAGEMENT SYSTEM

In Alberta, wastes are managed through an integrated system which involves the following components:

- * a series of state-of-the-art, municipal landfills throughout Alberta, which serve regional waste needs;
- * programs and opportunities for the recycling of oil, glass, paper, metal, plastic and chemicals;
- * a series of environmentally safe, collection sites for pesticide containers;
- * a world-class facility for the treatment and disposal of special wastes (the Alberta Special Waste Treatment Centre near Swan Hills);
- * licensed locations for storing hazardous wastes; and
- * a delivery network which is being developed to serve the customers of the Alberta Special Waste Treatment Centre.

Hazardous wastes are substances intended for disposal which, either in the short or long-term, could cause harm to people, plants, animals or the environment. (For more information on the properties and classifications of hazardous wastes, refer to Fact Sheet #3.)

The management of hazardous wastes is a key component in Alberta's total waste management system. There are three provincial agencies - Alberta Environment, Alberta Public Safety Services, and the Alberta Special Waste Management Corporation - involved in hazardous waste management, although, Alberta Environment has overall responsibility. This responsibility is established in the Clean Air Act, the Clean Water Act, and the Hazardous Chemicals Act.

Alberta Environment
Emergency/Complaints 1-800-222-6514

Alberta Public Safety Services
Dangerous Goods Information 1-800-272-9600

Hazardous Waste Information 1-800-252-9300
In Edmonton 427-9300

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Hazardous materials are used not only by industries, but also by businesses, farms and households, and all Albertans have important roles to play in ensuring that the resulting wastes are managed safely and effectively.

These facts sheets are part of an education and awareness program designed for everyone involved in managing hazardous wastes. If you are generating, handling, transporting, treating, or disposing of hazardous wastes, the program will help you to understand your role.

For more information contact any of the three agencies listed on page 1.

Hazardous Wastes Fact Sheet

FACT SHEET #2

LEGISLATION

There are six provincial statutes, or Acts, that govern the management of hazardous wastes in Alberta. These statutes are administered by four agencies of the Provincial government - Alberta Environment, Alberta Public Safety Services, Alberta Community and Occupational Health, and the Alberta Special Waste Management Corporation.

The Clean Air Act and the Clean Water Act

These two provincial statutes give Alberta Environment authority to establish standards for environmental protection, to license industrial facilities, and to monitor and enforce standards.

The Hazardous Chemicals Act and Hazardous Waste Regulation

The Hazardous Chemicals Act and a supporting document, the Hazardous Waste Regulation, establish a framework for managing hazardous substances. These are substances that could be harmful to people, plants, animals or the environment if they are mismanaged.

The Act and Regulation define the following aspects of Alberta's system:

- * They identify the hazardous wastes that are regulated by the system and those that are exempted.
- * They define the manifest system used in Alberta to track hazardous wastes from the cradle (where they are produced) to the grave (the place of their ultimate disposal).
- * They outline the requirements for landfilling of hazardous wastes and specify wastes which may not be landfilled.

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- * They outline emergency measures and reporting requirements for spills.
- * They outline storage procedures for hazardous wastes.
- * They provide authority to Alberta Environment to take action to control anyone handling or disposing of wastes unsafely.
- * They provide the Minister of the Environment with authority to require a bond from a person who operates a hazardous waste management facility.

The Public Health Act

The Waste Management Regulation, which supports the Public Health Act, governs municipal landfill approvals and practices. The Act and Regulation are administered primarily by Alberta Community and Occupational Health, through local health units.

The Transportation of Dangerous Goods Act

The Transportation of Dangerous Goods Act is a federal statute administered in Alberta by Alberta Public Safety Services. It outlines requirements for transporting all dangerous goods - including hazardous wastes - by road, into and out of Alberta. It also defines the authority of Dangerous Goods Inspectors. Regulations under the Act govern waste classification, documentation, and training and safety requirements associated with the transportation of hazardous wastes.

The Transportation of Dangerous Goods Control Act

This Provincial statute outlines requirements for packaging, marking and transporting dangerous goods - including hazardous wastes - within Alberta. The requirements outlined in this Act are essentially the same as those in the Transportation of Dangerous Goods Act.

User Guide

Alberta Environment has recently developed a User Guide which provides a simple overview of all legislation governing hazardous wastes in Alberta. This document is available through Alberta Environment's Industrial Wastes Branch (427-5883). In addition, guidelines for facilities which store, treat, or dispose of hazardous wastes will soon be available through this Branch.

Hazardous Wastes Fact Sheet

FACT SHEET #3

HAZARDOUS WASTES CLASSIFICATION

Hazardous wastes are substances intended for disposal which, either in the short or the long-term, can cause harm to people, plants, animals, or the environment. Any one of several properties could put a specific chemical into the 'hazardous' classification.

In Alberta, there are nine classes of hazardous wastes. These are outlined in detail in the Transportation of Dangerous Goods Regulation and the Hazardous Waste Regulation.

Generators of hazardous wastes are responsible for identifying and classifying wastes according to these nine classes. Anyone who handles, transports, stores, treats or disposes of hazardous wastes should also be familiar with the classification criteria. Please note that some wastes have more than one classification. Secondary classifications should also be reflected in your records.

Waste Classes

1. Explosive materials. (By definition, this class of materials is not considered a waste and, therefore is not governed by Alberta's system.)
2. Gases that are under pressure and are flammable, poisonous, or corrosive.
3. Any flammable liquid, mixture of liquids and solids, or liquid containing solids in suspension, that has a flashpoint of less than 61°C. (This class is divided into subclasses representing three different ranges of flashpoints.)
4. Flammable solids, spontaneously combustible materials and materials that are dangerous when wet.

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5. Oxidizers. (Any liquid or solid waste containing organic peroxide, or which causes the combustion of other materials by producing oxygen or other oxidizing substances, whether or not the waste itself is combustible.)
6. Poisonous liquids or solids, and infectious substances.
7. Radioactive materials. (This class of waste is not governed by Alberta's system.)
8. Corrosive liquids or solids.
9. Miscellaneous wastes which cannot be assigned to other classes but which are environmentally hazardous. (This class includes wastes containing PCB.)

More detailed information on the nine waste classes and information on the concentrations required to put specific materials into the hazardous classification is outlined in the Hazardous Waste Regulation.

Hazardous Wastes Fact Sheet

FACT SHEET # 4

REDUCTION AND RECYCLING OF HAZARDOUS WASTES

The provincial government is putting a great deal of effort into developing a management system that will ensure proper treatment and disposal of hazardous wastes. Two additional goals for the Alberta system are:

- * to reduce the amount of hazardous waste generated; and
- * to make it easier to recycle, rather than dispose of hazardous waste.

Waste reduction and recycling are integral parts of a sound waste management program. The benefits of reducing and recycling wastes include resource conservation, reduction of environmental degradation, minimization of detrimental health effects, and economic savings.

Reduction

The aim of reduction is to halt the production of hazardous waste before it starts. This is done in several ways:

- * The Department of the Environment requires, as a minimum, the use of Best Practicable Technology* in order for a facility to be licensed. This is one method of reducing waste streams.
- * Treatment and disposal of hazardous wastes is expensive and costs are rising throughout North America. It is the policy of the Government of Alberta that the waste producers must pay the full costs involved. This

* Best Practicable Technology - This is the highest level of pollution control technology which is technically and economically practical in a given situation. Best practicable technology may vary from industry to industry.

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encourages waste producers to find ways to reduce their costs. For example changes in processing, product design, and packaging can reduce the amount of waste produced.

- * Alberta Environment, Alberta Public Safety Services and the Alberta Special Waste Management Corporation also provide advice to the regulated community on hazardous waste reduction measures.

Recycling

Through recycling, we can reduce the amount of material that must be treated and ultimately disposed of. The provincial government encourages the recycling of hazardous wastes in the following ways:

- * The government will continue to support the Alberta Waste Exchange where generators can list the wastes they have or the wastes they need - like a barter system.
- * Alberta Environment maintains and distributes a list of all registered recyclers of hazardous waste in Alberta. This helps generators to find out where they can send wastes for recycling.
- * The regulatory requirements for shipping documentation should soon be reduced, so that it will be easier for a waste producer to ship wastes for recycling than for treatment and disposal.
- * Government policy which makes the users of the hazardous wastes system pay the full costs involved makes recycling increasingly attractive to waste producers.

Hazardous Wastes Fact Sheet

FACT SHEET #5

OPTIONS FOR DISPOSAL OF HAZARDOUS WASTES

Four options are available to Alberta's waste generators for treatment and disposal of hazardous wastes:

1. On-Site Treatment, Storage or Disposal

Waste generating industries may store, treat and dispose of their own wastes on the site of generation if Alberta Environment grants them the necessary licenses under the Clean Air and Clean Water Acts. Industries exercising this option must also comply with the Hazardous Chemicals Act.

2. Out-of-Province

Generators may send wastes to out-of-province treatment and disposal facilities. They must follow appropriate packaging, handling and transportation requirements as outlined in the Transportation of Dangerous Goods Act.

3. Alberta Special Waste Treatment Centre

The Alberta Special Waste Treatment Centre is a fully integrated off-site treatment and disposal facility. This facility treats and disposes of organic and inorganic wastes generated in Alberta, with the exception of explosive, pathologic and radioactive wastes. The Centre provides high temperature incineration and physical/chemical treatment as well as residue disposal. Hazardous waste generators must bear the financial responsibility for the safe transport and disposal of their hazardous wastes.

4. Recycling and Reduction

Recycling and waste exchange opportunities are available to generators in Alberta to help reduce the amount of waste that must be disposed of. Although recycling is not technically a disposal option, it is an option

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that generators should consider in their waste management planning. The Alberta Waste Exchange provides information to both waste generators and receivers.

Process refinement and equipment upgrading are additional options which industries may use to reduce waste streams.

Hazardous Wastes Fact Sheet

FACT SHEET #6

DISPOSAL OPTIONS FOR HAZARDOUS WASTES THAT CANNOT BE LANDFILLED

The Hazardous Waste Regulation prohibits the landfilling of specific hazardous wastes in excess of set, minimum concentrations at all landfill sites in Alberta. The wastes that cannot be landfilled are outlined in detail in Section 17(2) of the Hazardous Waste Regulation.

Some examples of wastes that cannot be landfilled are chlorophenols, acetone, benzene, carbon tetrachloride, toluene, cyanides, PCBs, wastes that are strong acids (such as concentrated sulphuric acid), and liquid wastes which contain contaminants like arsenic, cadmium, lead or mercury. (This list of prohibited wastes is likely to expand in the future as the information base on hazardous materials expands.)

By limiting the hazardous wastes that can be landfilled, Alberta is putting the onus on waste producers to treat or recycle their wastes. This reduces the need for perpetual care of land that is used for hazardous waste disposal. It also reduces the need for massive decommissioning* of sites when they are closed. In other words, the emphasis is on prevention.

Waste generators have several options for disposing of hazardous wastes that cannot be landfilled:

- * Wastes can be recycled (that is, sent to a facility that will reprocess them so that they can be reused).

* Decommissioning can include removal of all structures, contaminated soils, and other contaminated materials which might make the site unsafe, as well as improvements to the land surface to make it appropriate for the next intended use.

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- * Wastes can be listed on the Alberta Waste Exchange to link the generator with another industry than can use them.
- * If an appropriate treatment method exists, and the producer is licensed to do so, wastes can be treated on-site in Alberta in order to make them safe for disposal.
- * Wastes can be sent to the Alberta Special Waste Treatment Centre near Swan Hills.
- * Wastes can be sent to facilities outside of Alberta.

Hazardous Wastes Fact Sheet

FACT SHEET #7

STORAGE OF HAZARDOUS WASTES

The Hazardous Waste Regulation limits the storage of hazardous wastes both by time and volume. This ensures that storage is not used as an alternative to treating and disposing of wastes. The time limit for storage is one year and the volume limit is 10 tonnes. If either limit is exceeded the generator must have the waste properly treated and disposed of.

Under exceptional circumstances, Alberta Environment may grant a license to allow longer term storage of hazardous wastes. In granting such an approval, however, Alberta Environment will be concerned to comply with the intent of the Hazardous Waste Regulation - that is, to prevent storage from replacing proper treatment and disposal.

The storer of wastes must also ensure that wastes are properly labelled and contained to prevent releases to the environment. Other storage and storage facility requirements are outlined in the Hazardous Chemicals Act and the Hazardous Waste Regulation. Additional requirements are specified in guidelines issued by the Department of Environment. For further information contact:

Industrial Wastes Branch
Alberta Environment
427-5883

Alberta Environment
Emergency/Complaints 1-800-222-6514

Alberta Public Safety Services
Dangerous Goods Information 1-800-272-9600

Hazardous Waste Information 1-800-252-9300
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Hazardous Wastes Fact Sheet

FACT SHEET #8

TREATMENT AND DISPOSAL PROCESSES

Reducing the amount of hazardous wastes generated should be the generator's top priority. Wastes which cannot be eliminated completely can be treated to remove toxicity and reduce the degree of hazard. Treatment options include:

1. Thermal Destruction

The most common thermal destruction process for ORGANIC wastes is specially designed incineration: a controlled combustion process that oxidizes organic materials to carbon dioxide, water, acids and ash. Improvements are being made continually to enhance the efficiency of this process.

2. Physical/Chemical Treatment

The hazardous components of many INORGANIC wastes can be removed or altered by separating liquids from solids, and/or by adding appropriate chemicals to the waste stream to detoxify or reduce toxicity. Chemical treatment can make some hazardous wastes suitable for secure landfilling.

3. Land Treatment

Land treatment is a type of biological treatment process in which micro-organisms use waste as a source of energy. Certain organic wastes such as oils, can be degraded to reduce their toxicity in this way.

4. Solidification

There are various processes which can solidify wastes into a concrete or rock-like material. In general these processes involve mixing solid, sludge and liquid wastes with reaction chemicals. In the landfill, the mixture cures and hardens to form a stable, non-leaching solid.

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These treatment processes renders wastes relatively inert, but can leave residues which do require special disposal. Disposal options for treated residues include:

1. Secure Landfilling

Special chemical landfills are designed to prevent contamination of ground and surface water. These are lined and capped with appropriate materials and are operated in conjunction with monitoring programs.

The secure landfill used for treated residues at the Alberta Special Waste Treatment Centre has plastic and textile liners, a leachate collection system, a roof to eliminate precipitation from the cell, and a surrounding groundwater monitoring system.

2. Deepwell Injection

In Alberta, where geological conditions are suitable, deep injection wells are used for safe disposal of by-products from oil and gas extraction processes, and treated process wastewater from refineries, gas plants, chemical and fertilizer plants. These wells are licensed by the Energy Resources Conservation Board.

A deepwell at the Swan Hills Treatment Centre receives treated process wastewater and surface run-off water collected at the Treatment Centre itself.

All on-site and off-site treatment and disposal facilities are licensed under the Clean Air and Clean Water Acts, and must be operated in compliance with the Hazardous Chemicals Act.

The Alberta Special Waste Treatment Centre provides all treatment processes described, with the exception of land treatment. If they are licensed to do so, industries may use similar treatment and disposal techniques on-site, or use the facilities at the Alberta Special Waste Treatment Centre.

Hazardous Wastes Fact Sheet

FACT SHEET # 9

TRANSPORTATION

The transportation of hazardous wastes is an important step in Alberta's waste management system. Ensuring complete recording and tracking of waste materials requires the participation of all handlers, from the source of generation to the final treatment and disposal site.

To ensure that wastes are tracked from the cradle (where they are produced) to the grave (the place of their ultimate disposal), a tracking system has been developed. It works in the following way:

- * Each hazardous waste producer, carrier, and receiver must receive a Personal Identification Number (PIN) from Alberta Environment. If the wastes are shipped off the site of their production for treatment, storage, and disposal, they must be accompanied by a special bill of lading called a manifest. This manifest accompanies the wastes all the way through the process, and is required by both the Hazardous Waste Regulation and the Transportation of Dangerous Goods Regulation. The six-copy manifest must include information on the generator, the carrier, and the receiver.
- * Only registered, qualified carriers are allowed to transport hazardous wastes. They must take them only to the receiving facility identified on the manifest or docket. In other words, the receiver-side of the chain is already arranged in advance of the shipment. If it is not, then the wastes cannot be shipped. A carrier should not accept a hazardous waste load unless it is accompanied by a manifest which is properly completed.
- * When the load arrives at its destination, the receiving facility is responsible for making sure that the wastes match the description on the manifest and that the facility is licensed to receive them. A representative of the facility must sign for the waste when it is received. A receiver must not accept a hazardous waste unless it is accompanied by a properly completed manifest.

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- * By law, copies of the manifest must be sent to the Department of the Environment within a few days of shipment and receipt of the wastes. Alberta Environment will match the manifest with inventory information from licensed facilities, to ensure it arrives at the scheduled destination.

In addition to the above requirements for the transportation of hazardous wastes, prenotification requirements apply for international or trans-border shipments of hazardous wastes, and for all shipments of materials containing PCBs. Alberta Public Safety Services and Alberta Environment can provide additional information on the transportation system.

Hazardous Wastes Fact Sheet

FACT SHEET #10

SAFETY MARKINGS REQUIRED TO TRANSPORT HAZARDOUS WASTES

Safety markings are required on containers and transport units that are used to transport hazardous wastes. This is required by both the federal and provincial transportation regulations (the Transportation of Dangerous Goods Act and the Transportation of Dangerous Goods Control Act).

Safety markings are used to indicate the type of wastes being transported, and the degree of risk associated with their transportation. It is the responsibility of the generator to display the appropriate markings. However, if markings are lost or damaged in transportation, the person in charge of the wastes at the time is responsible for replacement.

There are three types of safety marks:

LABELS: These are diamond-shaped and colour-coded according to waste classification. These labels must be 100 mm on each side and are attached to individual containers and packages which contain dangerous goods or hazardous wastes.

PLACARDS: These are also diamond-shaped and colour-coded according to classification. Placards must be a minimum of 250 mm on each side they are placed on large containers, and on all four sides of vehicles used to transport hazardous wastes.

OTHER SAFETY MARKS: Such markings include the Product Identification Number, control temperatures, and flashpoints of hazardous wastes.

For further information, contact Alberta Public Safety Services, Compliance Information Centre (Edmonton) 422-9600.

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Alberta Public Safety Services
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Hazardous Wastes Fact Sheet

FACT SHEET #11

SPILL AND EMERGENCY RESPONSE

Phone 1-800-222-6514 in case of a spill, uncontrolled release, or any emergency relating to hazardous wastes to reach the Pollution Control Division of Alberta Environment. Trained members of the Pollution Emergency Response Team will recommend the best way to proceed with the emergency.

Spills of fuel or chemicals may result in the contamination of soil, water or air, and could adversely affect plants, animals or people. They must be responded to properly.

The following seven steps provide a general guide to effective spill response and clean-up:

1. Identify the material.
2. Contain the material. Don't let it spread.
3. Notify the right authorities - including Alberta Environment's Pollution Control Division.
4. Recover the material. Using proper handling procedures and safety precautions, collect as much as you can.
5. Clean-up. Remove contaminated soil or material according to proper handling procedures and safety precautions.
6. Check disposal options and select the best alternative in consultation with the appropriate authorities. (If the material is a hazardous waste, you must have a proper manifest to transport it.)
7. Reclaim. Restore the site as near to its original state as possible.

Quick and proper spill clean up is imperative. In case of a spill, phone 1-800-222-6514 immediately.

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Hazardous Wastes Fact Sheet

FACT SHEET #12

ENFORCEMENT

Setting Standards and Issuing Licenses

The Standards and Approvals Division of Alberta Environment issues licenses to industrial facilities which generate hazardous materials. Environmental protection standards, and operating and monitoring requirements for these facilities are outlined in the licenses.

Some specially designed landfills can accept some types of hazardous wastes. The design requirements for such landfills are outlined in the Hazardous Waste Regulation. Industrial landfills are licensed by Alberta Environment and must be secured from public entry at all times. The responsibility for this rests with the landfill operator.

Alberta Environment requires industrial facilities to conduct their own monitoring programs to ensure compliance with standards and license requirements and to provide the results to Alberta Environment. Alberta Environment, of course, defines the monitoring requirements in industrial licenses.

Compliance and Enforcement

The Pollution Control Division of Alberta Environment is responsible for ensuring that environmental standards and license conditions are complied with. This Division also conducts programs to ensure that industry monitoring programs are conducted properly, and that monitoring information is reported honestly.

Alberta Environment also conducts random spot checks at landfills throughout the Province (both those that are licensed to accept certain hazardous wastes, and those that are not) to ensure that the wastes received at these facilities are appropriate. Public health inspectors employed by local health units are responsible for ensuring compliance with requirements for municipal landfills.

Alberta Environment
Emergency/Complaints 1-800-222-6516

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Through the Clean Air and Clean Water Acts and the Hazardous Chemicals Act, the Pollution Control Division has authority to enforce standards and license requirements. The enforcement response from Alberta Environment could take the form of a control order, a stop order, or a recommendation to the Attorney General to prosecute. The enforcement response varies depending on the severity of the violation, but is applied consistently for similar violations.

Penalties and a summary of possible fines for violations are detailed in the appropriate statutes - the Agricultural Chemicals Act, the Clean Water Act, the Clean Air Act, and the Hazardous Chemicals Act.

Industries are required to report all unlicensed emissions to Alberta Environment. Clean-up costs are the responsibility of the polluter. Information on violations and Alberta Environment's enforcement response is made public.

Pollution Emergency Response Team

In addition, Alberta Environment has a Pollution Emergency Response telephone number which operates 24-hours each day and is toll-free. Anyone who suspects illegal dumping, or who has other concerns, can phone the number and a member of the Pollution Emergency Response Team (PERT) will investigate. The number is 1-800-222-6514.

For additional information, contact Alberta Environment's Standards and Approvals Division (427-5883) or Pollution Control Division (427-6270).

Hazardous Wastes Fact Sheet

FACT SHEET #13

THE ALBERTA SPECIAL WASTE TREATMENT CENTRE

In 1984, the Government of Alberta established the Alberta Special Waste Management Corporation to plan, develop, and manage a system for treating and disposing of special wastes in Alberta.

The focus of the system is the Alberta Special Waste Treatment Centre, Canada's first comprehensive hazardous waste treatment facility, which officially opened September 11, 1987.

This \$50 million facility, located 20 kilometres northeast of Swan Hills and 250 kilometres northwest of Edmonton, provides a full range of waste treatment options. It can treat and dispose of the full range of special wastes through a variety of processes.

The opening of the Special Waste Treatment Centre marked the conclusion of an extensive siting and construction program that was conducted with thorough public consultation. The Treatment Centre is jointly owned by the Alberta Special Waste Management Corporation (a crown agency) and Bow Valley Resource Services Ltd. A subsidiary of Bow Valley, Chem-Security Ltd., operates the facility.

The Centre is designed to treat 15,000 tonnes of Alberta-generated organic and inorganic waste annually on its 23 acre site. Treatment processes are used to break down complex molecular structures into simpler, non-toxic compounds, or to oxidize compounds to form non-toxic compounds. Most chemicals that are harmful can be rendered harmless through combustion.

The Special Waste Treatment Centre includes a laboratory, a state-of-the-art incinerator that burns materials at temperatures in the order of 1200°C, physical-chemical treatment processes, a secure covered landfill, surface water collection ponds, and deepwell injection for treated liquid residues and site run off.

Alberta Environment
Emergency/Complaints 1-800-227-6514

Alberta Public Safety Services
Dangerous Goods Information 1-800-272-9600

Hazardous Waste Information 1-800-252-9300
In Edmonton 427-9300

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Hazardous Wastes Fact Sheet

FACT SHEET #14

COLLECTION AND TRANSFER

With the completion of the Special Waste Treatment Centre near Swan Hills, the next step in developing a complete system will be the siting of regional transfer stations. A province-wide collection system is essential, particularly for small generators. Major industries may be treating their wastes on site, or contracting waste firms for shipment and treatment at the Swan Hills facility.

The Province is currently examining the collection system which has operated in Denmark for several years with a view to determining what components of the Denmark approach can be applied to the Alberta situation.

In Denmark, collection begins at the household, farm, or small business level. Transfer depots are then used to consolidate regional wastes. The final step is the controlled shipping of consolidated wastes to the central plant for disposal.

To encourage individual responsibility for hazardous waste management in Alberta, some special collection days for household wastes have already been held. The City of Calgary is proceeding with a transfer station concept, and regularly instructs small generators on disposal practices. Other cities and towns are encouraged to undertake similar initiatives.

Alberta Environment
Emergency/Complaints 1-800-222-6514

Alberta Public Safety Services
Dangerous Goods Information 1-800-272-9600

Hazardous Waste Information 1-800-252-9300
In Edmonton 427-9300

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Hazardous Wastes Fact Sheet

FACT SHEET #15

SMALL QUANTITIES AND HOUSEHOLD HAZARDOUS WASTE

Certain hazardous wastes in small quantities are exempt from the waste management requirements outlined in the Hazardous Waste Regulation. This exemption applies to businesses that generate wastes in small quantities less than five kilograms or five litres per month.

The reason for these exemptions is that if small quantity generators were included in the system, everyone would need an identification number and would have to account for every bit of waste generated, including household oven cleaner or paint. This would require an extremely costly and complex system.

The approach taken by the Provincial government to deal with small quantities of hazardous wastes is to exempt them from the system but to develop other methods to capture their wastes into the system.

Alberta Environment (in conjunction with the Alberta Special Waste Management Corporation, major municipalities, and other organizations) is supporting household hazardous waste collection days. These are special days when householders and small quantity generators can gather their hazardous wastes and have them picked up, or deliver them to, an appropriate centre for sorting, treatment and disposal. Consumers are encouraged to participate in these "Toxic Round-Up" or "Red Litter Days".

What are Household Hazardous Wastes?

Household hazardous wastes are any flammable, corrosive or toxic materials discarded by householders. Many materials used for painting, cleaning, disinfecting, and gardening will leave residues in containers that are considered hazardous.

Some examples of household hazardous wastes are: insecticides, herbicides, fertilizers, pest strips, moth balls, furniture polish, motor oil, paint, solvent, gasoline, antifreeze, photo chemicals, batteries and kerosene.

Alberta Environment
Emergency/Complaints 1-800-222-6516

Alberta Public Safety Services
Dangerous Goods Information 1-800-272-9600

Hazardous Waste Information 1-800-252-9300
In Edmonton 427-9300

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For specific information on household hazardous wastes and small quantity exemptions refer to the Hazardous Waste Regulation.

Hazardous Wastes Fact Sheet

FACT SHEET #16

CONTACT LIST

Alberta Environment, Alberta Special Waste Management Corporation and Alberta Public Safety Services bear the major responsibility for the handling and transporting of hazardous wastes or for incidents involving hazardous wastes.

Alberta Environment	Emergency/Complaint	1-800-222-6514
Pollution Control Division		427-6270 (Edmonton)
- regulations enforcement		
Waste Management Branch		427-5868 (Edmonton)
- manifest information		
- disposal options		
- monitoring and enforcement		
Industrial Wastes Branch		427-5883 (Edmonton)
- standards and licenses		
Alberta Special Waste Management Corporation		1-800-272-8873
- authorization of disposal sites,		422-5029 (Edmonton)
recycling facilities and treatment centres		1-800-252-9300
- Hazardous Waste Information		427-9300 (Edmonton)
Alberta Public Safety Services		
Dangerous Goods Control Division		427-2772 (Edmonton)
- regulation of road transport		
- enforcement and permitting		
Compliance Information Centre		422-9600 (Edmonton)
- transport regulations information		

Alberta Environment
Emergency/Complaints 1-800-222-6514

Alberta Public Safety Services
Dangerous Goods Information 1-800-272-9600

Hazardous Waste Information 1-800-252-9300
In Edmonton 427-9300

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